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FLOWERS AND VINES.

We usually urge upon the attention of our readers every spring the refining influence of even the simplest form of things that are beautiful in themselves without any reference to the narrow test of practical utility. As far as the human needs of the body are concerned, flowers and climbing plants render us no service. They may not add to the productive returns of the farm a single cent. They may even cost a few dollars, and take from ordinary labor some little time. Are these wasted?—Far from it, we are sure. If every other operation of the farm brought us as large a benefit in proportion to the money and time employed, farming would be a more remunerative occupation than it is at present. Even the commonest flowers and the lowest price annual climbing plants will give an air of neatness and even elegance to a country home that cannot be attained by any other means. A large expense may be incurred, and the same effect not be produced. Not only may this expense be, but it actually is, incurred without the desired end being attended, as we see constantly among people who have more money to spend than the taste and judgment to expend it judiciously. Natural beauty cannot be bought. Gravelled walks, ornamented iron summer houses, bird boxes, gaudily painted, statues, fountains, and such like accessions will not equal in tender beauty simple flowers and vines selected with good judgment, and so planted as to bring out their contrasts or harmonize their colors as required. There need be no difficulty in obtaining the necessary plants. Many of those with which we are more familiar, and for that reason pass by without thought, are among the most appropriate and beautiful. Few, for instance, among all our flowers are more delicately tinted or show finer shadings of color than the *Convolvulus* or *Morning Glory*. It well repays its cultivation. It is a vigorous and hardy grower, a graceful climber,

and bears flowers though the greater part of the season, the beauty of which are not fairly appreciated. Once planted and proper supports given it to run upon, it will take care of itself. The fact not generally known, but of some importance in selecting the seed, is that there is great choice among the different varieties—though the commonest of climbing plants, the *Morning Glory* is by no means the only one which is at the same time beautiful and inexpensive. If, then, those who have the privilege of living in the free air of the country, far from the turmoil, dust and heat of the city, would benefit themselves and their families, and teach an useful lesson to the children growing up who are some day to occupy their places, let them not forget the charm that clings around the adornment of the home with flowers and vines and shrubbery.

To those who wish to plant largely, a consultation with any competent florist, either personally or by letter, is advisable. For ordinary purposes, a simple calendar of flowers and some little experience will furnish all the needful information. We, however, in passing venture on the following suggestions: The soil for plants should be loose and friable. If enriched with good woods' earth, so much the better. Almost any ground can be prepared for the purpose with a little care. If too compact, add woods' earth, leached ashes, well rotted stable manure in the autumn and sand. If too porous, mix the soil with clay, meadow turf and heavy loam composted beforehand, and when spread spaded well in. The flower beds should be enriched to the depth of from eighteen inches to two feet. The roots of nearly all plants strike deep when the opportunity is given them, and by drawing moisture from below retain their freshness longer. It is of the first importance to give them a fair start. If they become stunted, or in any way injured, it is best to run over them and plant others in their places. If it is desired to grow climbing plants directly on the wall of the dwelling, choose, as a

matter of preference, an eastern, western or northern exposure rather than a southern one. The former aspects give more shade and moisture, and for the most of the day are protected from the extreme heat of the summer sun. There are very few plants which can flourish under a hot sun, when in addition to its direct rays they are subjected to the reflected heat from the wall of the dwelling. If, however, the vines are trained on a porch or lattice work a southern exposure may be used. Even then the plants are apt to be killed in the winter. The great danger to which they are then subject is that of freezing rains, which often coats the vine or bush with a thin film of ice, which melts in the morning sun, and the tender branches, and often the main stem down to the roots, wither and become dead wood. The only remedy against this, and the sudden alternations to which flowers and climbing vines are exposed when they have a southern aspect, is to cover them carefully in the winter season and uncover slowly and cautiously in the spring. In choosing plants, the rose, the queen of all flowers, takes unquestionably the first rank. The best kinds are those that are known as perpetual bloomers, although they are not as hardy as the commoner June roses. The tea and the Bourbon varieties are very beautiful, as are the cluster roses. For training purposes those of vigorous and rampant growth should be selected, the lower standard roses being chosen for borders and outlying beds. The varieties are so numerous and tastes differ so much in regard to the best sorts that we refrain from giving any list of roses, preferring that those who propose to plant shall take the advice of experienced neighbors or of reputable florists. With respect to permanent climbing vines, the list is comparatively limited, and we do not hesitate therefore to give the names of those from among which a good selection can be made. These are:

The Chinese Honeysuckle, blooming from June to December.

Money Fragrant Honeysuckle, blooming from May to November.

White Clematis, blooming in August.

Chinese Purple Wistaria, blooming in early spring and occasionally during the summer.

Virginia Silk Vine, blooming in July.

White Jessamine, blooming in July.

We give also a selection of annual climbing plants that are rapid growers:

Maurandya Barclayana—blue—grows over ten feet high.

Opomea Larii (Morning Glory)—purple—grows over twenty feet high.

Opomea Selowii (bulbous rooted Morning Glory)—white—grows over 20 feet high.

Cobœa Scandens—dark purple—grows over twenty feet high.

Cypress Vines—scarlet and white—grows over ten feet high.

Brazillian Vine—brownish white—grows over twenty feet high.

Thunbergia—purple to buff—grows from 8 to 10 feet high.

German Ivy—leaves fleshy and dark green—grows over ten feet high.

CITY MARKETS.

Persons residing at a distance from large cities seem, generally, to have very crude or erroneous ideas respecting their markets. A very common opinion would seem to be that the market is an immense place after the fashion of a country store—where all kinds of grease can be sold as butter, and anything with a shell on will be a saleable egg; where anything which has feathers on will bring the price of first-class poultry;—and, in fact, where all receive the same price, be their produce good, bad, or indifferent; where all a person has to do is to dump down his load, draw his cash, and come home. All persons holding such opinions would do well to undeceive themselves, and remember three axioms in regard to selling produce in our great cities:

First. Every package of marketing sells upon its own merits, and prices vary with the quality.

Second. The market man must find some one who wishes to buy, before he can dispose of his produce.

Third. It takes two to make a bargain, as it does in some other places.

These axioms once understood, persons should not expect commission merchants always to return the highest prices quoted in the papers, or always to find several parties agreeing exactly in their reports. First, because the highest rate is always that which is paid for choice lots,—lots which are better than the average of the market, and it is preposterous to expect all lots to be rated choice; and, secondly, because every merchant is liable to be more or less fortunate in making sales. Produce, as a general rule, must be sold within a short time, and if a good sale is not soon effected, a poor one may have to be.

Any one having much produce to sell, should by all means examine for himself, in the market where he expects to sell it. Then let him put his stuff in the best possible condition, and deal with parties whom he has confidence in. If one cheats him in any way, leave him; and when you find a good man, stick to him.—*Cecil Whig.*

The last cup of the frolic is generally the hiccup.

LAWNS AND LAWN GRASSES.

A writer in one of the northern agricultural papers is strongly recommending the exclusive use of red top as a lawn grass, and his opinion of its value finds some endorsement in quarters from which we least expected it. We do not at all doubt that in the absence of better seed, red top will make a decent lawn, but we decidedly dissent from the unqualified praise which is given it as the best grass for lawn purposes. No really fine lawn can be made from a single grass, and all grasses used in laying down to lawn should be of the fine, low lying character, and such as have the quality of thickening without bunching. Red top spindles too much. But whilst it may be used to some advantage in a mixture of grasses, and because its native character makes it hardy, it will fail to give entire satisfaction when used alone, even if the preparation of the soil has been of the very best kind.

The great trouble of nearly all our lawns is the tendency of the grasses to become yellow and to shrink up under the hot suns of midsummer. It is very rarely the case that a really good lawn can be seen holding its greenness all through the season. It is this perfect and unchangeable verdure that makes the glory of English lawns. But whilst the conditions of the climate there are very different from what they are with us—our seasons being dry and theirs moist—it is still within our power, by a proper preparation of the soil, to obviate the disadvantages under which our lawns so generally suffer. To accomplish this desirable end we offer the following suggestions:

In the first place it must be premised that the preparation for a lawn should be thorough. The soil should not only be rich, but it should also be deep. If the lawn is large enough to admit the plough it should also be subsoiled. If it is to be spaded—and the extra labor will be well repaid by the fineness to which the soil will thus be reduced—it should also be trenched. But deep ploughing and subsoiling, or trenching with the spade, are indispensable, if a lawn is to maintain its greenness all through the season. The soil should also be made rich by a little addition of the super-phosphates and of wood ashes, or by well rotted stable manure. It should be made fine to its entire depth, both as offering free range to the roots of the grasses, which thus striking deep gather moisture from below during a period of drought, and as giving vigor and succulence to the grasses themselves.

But unless the soil for a lawn is naturally wet and cold it ought not to be underdrained. We have seen lawns that it was thought advisable to run drains through, and although in all other respects the preparation had been good, and the grass continued green,

the lines of the drains could be distinctly defined by the yellow color of the grasses over them. The conditions therefore of a good lawn are first—that the soil should be rich in those constituents—potash and the phosphates—which constitutes the principal food of the grasses, and second that it shall be deep and finely pulverized for the whole of its depth. The seed bed should be raked over, and made as fine as possible. Now then as to the seed.

The best grasses for a lawn are three pecks of green grass seed—*Poa Pratensis*, and one peck of sweet vernal grass seed—*Anthoxanthum odoratum*.—These two grass seeds mixed together and broadcasted at the rate of three bushels to the acre, will with proper after management make an excellent lawn. There are some however who would prefer a more varied mixture, and to them we should suggest a lesser quantity of green grass and the deficiency to be made up with Kentucky blue grass—a little white clover seed may be sprinkled over the whole to advantage, but it should be used sparingly, as its tendency is to crowd out other grasses and then die out itself. But whatever mixture of seed may used they should be raked in, and the whole surface of the lawn made perfectly smooth with the roller, all stones being first picked off. Such a lawn will last for many years, and retain its greenness, when the ordinary grass fields are parched and dried up with the drought.

But it is not sufficient to lay down a lawn to grass in the best manner. The lawn must be treated with due care and attention subsequently. As soon as the grasses arrive at that age when they are well set, they should be closely and regularly mown every two weeks, to thicken the sod, and every two years at the latest, the lawn should be liberally top-dressed in the spring, and then harrowed and rolled. If these suggestions are followed, no one need complain of the want of greenness in his lawn, or of the coarseness of the grasses.

TO CLEAN PAINT.—There is a very simple method to clean paint that has become dirty, and, if our housewives should adopt it, it would save them a great deal of trouble. Provide a plate with some of the best whiting to be had, and have ready some clean warm water and a piece of flannel, which dip into the water and squeeze nearly dry; then take as much whiting as will adhere to it, apply it to the painted surface, when a little rubbing will instantly remove any dirt or grease. After which wash the part well with clean water, rubbing it dry with a soft chamois. Paint thus cleaned looks as well as when first laid on, without any injury to the most delicate colors. It is far better than using soap, and does not require more than half the time and labor.

A leading article—The blind man's dog.

Our Agricultural Calendar.

FARM WORK FOR MAY.

We have now reached the head of the planting season, and as the spring opened early, there can be no doubt that the work on the farm has in most instances been well advanced. The preparations for the corn crop is, however, the most important duty that claims the attention of the farmer at this time. It may be that a good deal of this laborious work has already been done; but whether this is the case or not, it should be thoroughly performed. It is scarcely necessary to enter into a detailed statement in respect to the soil and cultivation of this, the noblest of all the cereals. There is no intelligent farm hand who does not know how to grow a crop of corn, and the soil in which it flourishes most vigorously. He knows that a light, deep, sandy loam, rich, and abounding in hummus, in potash and the phosphates, is the soil to be preferred above all others—the best of this kind being those low alluvial bottoms that lie on the margins of streams, and that have been drained of their superfluous moisture. The next best are meadow lands of a light texture, broken up from the sod in the autumn, and ploughed and cross-ploughed in the spring. But whatever the soil, the largest crops can only be grown on soils that have a good admixture of sand, and that are either naturally rich, or have been made so by the addition of manures or commercial fertilizers.—Moreover, corn requires constant attention until it is large enough to lay by, and this rarely happens until about the middle of July, whilst more frequently the cultivator has to be kept running in this latitude still later in the season. We offer as usual the following suggestions for the month, commencing naturally with the great cereal:

Planting of Corn.

At the risk of repetition we repeat first,

As to soil.—The soils best adapted for corn are as we have already said, the light, deep, rich, sandy loams; but large crops may be grown on all those varieties of loams that admit of complete pulverization, and contain a fair proportion of sand and vegetable mould. In point of fertility no land can be too rich for corn. It is a gross feeder, grows vigorously under good conditions, and occupying the soil but a few months it requires a large amount of soluble food stored up in the soil for its use—a loose soil, admitting air freely, and frequently stirred, is of course as essential to the rapid growth of corn as abundance of nutriment is to its productiveness. The roots must have liberty to ramble freely in search of food, and the depth of the soil should be such as will enable it to store up a supply

of moisture to keep the plant in good growing condition during seasons of drought. Unless great care is taken, corn which is subject to few diseases, suffers more severely from protracted dry weather; a permanently wet soil kills it. But a regular supply of moisture is absolutely essential, and this must be derived from rains, and in the absence of rains, from evaporation within the soil itself.

Of manures.—No crop except tobacco requires so large a supply of potash and the phosphates as corn. The following analysis of the ashes of the grain and of the stalk has been furnished by Prof. Johnston. The proportions are 1000 parts of each:

ANALYSIS OF INDIAN CORN.

	Corn Stalks.	Grain of Corn.
Potash.....	96	
Soda.....	286	395
Lime.....	83	14
Magnesia.....	66	102
Oxide of Lime.....	08	03
Phosphoric Acid.....	171	449
Sulphuric Acid.....	07	28
Chlorine.....	15	02
Silica.....	270	14
Total,	1012	997

It will then be seen that potash, soda and silica, are required in a corn soil in far larger proportions than any other inorganic element, and that next to these are the phosphates. If these are deficient the crop will be lessened in proportion. It follows from these analyses, that the fertilizers most required for corn are 1st, unleached wood ashes, or their equivalent in the potash and soda of commerce; and 2d, phosphate of lime to be drawn either from fine ground bones, or from the super-phosphates which are to be had of the manufacturers of fertilizers.—The silica of which so large an amount is required in the coating of corn stocks is drawn from the soil, being rendered soluble by the chemical action of soda upon the sand, and by other agents within the soil itself, or derived from the atmosphere.

As to Ploughing.—It is scarcely necessary to say much on this head. We have already stated that it is of the first consequence that the ploughing should be as deep as the nature of the subsoil will admit—we have also said that the soil should be made loose and light. It is only necessary to add that this condition must be observed all through the growing season, and that no crop under cultivation requires to be kept more cleanly or more friable than corn.

Oats.

It is reasonable to expect that this crop has been seeded weeks ago. If there has been a failure in this respect let the work be done at once, although the prospect of a good crop will be greatly lessened by the delay. For the best mode of preparation we refer to the *Farmer* for April.

Pumpkins.

If the fertility of the soil will admit of it, plant pumpkin seed among the corn. It should be gotten

in by the middle of the month—or an acre of pumpkins may be planted separately in hills, ten or twelve feet apart. If carefully stored away in the autumn they will be found when cut up and mixed with a little corn meal or brown stuff, of great assistance to milch cows during the following winter.

Millet.

If the hay crop promises to be short, sow a few acres of millet. It is nutritious, grows quickly and yields on good land a heavier crop than timothy.—Cattle of all kinds are fond of it and it stands drought remarkably well. The only objection to millet is that the seed shatters a good deal in harvesting unless special care is taken to prevent it.

The Soil for Millet.—A deep sandy loam, or alluvial; any rich soil, however, which is not too tenacious, will grow a good crop of millet.

Time of Sowing.—Early in May.

Quantity of Seed to the Acre.—For hay, one bushel; for hay and seed, half a bushel to the acre.

Time of Harvest.—When the seed commences to turn yellow.

Mode of Curing.—Same as clover.

Field Peas and Beans.

These should be planted early in the month.

Root Crops.

Carrots, parsnips and mangold wurtzel should have been seeded a month or so ago—they may, however, yet be seeded. See Farm Work for March and April.

Broadcast Corn for Soiling.

Another admirable substitute for a deficient crop of grass, is corn seeded broadcast. Make the soil very rich and sow the seed at the rate of four bushels to the acre; harrow well in, and follow with the roller.

Sweet Potatoes.

Get these in as soon as possible.

Harvesting Clover.

Begin to harvest clover as soon as one-half the blossoms have turned brown.

PLANT FOOD.

Without a proper management of nitrogen, potash, and phosphoric acid, no farmer can be in a high degree successful. He grows no plant upon his farm which does not contain them; he sells no product, vegetable or animal, which does not carry them away. He has no soil rich enough to endure for any considerable length of time the draft made upon it for these substances by plants without losing its fertility. They must be supplied, or exhaustion follows. There are in 1000 pounds of wheat, 23; of oats, 22; of peas, 42; of potatoes, 15; and of red clover hay, 21 pounds of nitrogen, respectively. In 1000 pounds of wheat, there are 237; of corn, 250; of oats, 123; of potatoes, 515; and of clover, 161 pounds of potash, respectively. In 1000 pounds of wheat, there are 498; of corn, 501; of oats, 149; of potatoes, 113; and of clover, 63 pounds, respectively, of phosphoric acid.—*Prof. Fernald.*

Garden Work for May.

The work for the month in the Garden is as follows:

Watermelons, Cante'eupes and Musk Melons. The soil for these should be a light rich loam, very deeply stirred, and made fine and loose. The hills for watermelons should be six feet apart, eight feet apart would be better still—musk melons and canteleupes may be planted closer. Plant each kind however in separate places at a good distance apart, or the pollen will mix and the fruit deteriorate.

Cymbilins, (Squashes.)—A small patch of cymbilins in hills four feet apart, should be planted early this month.

Cucumbers.—Plant cucumbers also in hills, well manured, and at the same distance apart as the squashes.

Sweet Potatoes.—If, as is frequently, the case the field culture of sweet potatoes constitutes one of the minor objections of the farm, there will be no necessity for planting this valuable root in the garden. On the other hand, if they are not so grown, no garden would be without its bed of sweet potatoes. A deep sandy loam is best adapted to their vigorous growth. The exposure of the bed should be well to the south, and the hills or drills should be heavily manured.

Early Corn.—Corn for roasting ears may still be planted, but for early use it would have been better to have planted two weeks earlier, if the garden is well protected, and has a Southern aspect.

Setting out Cabbage Plants, Cauliflower and Broccoli.—Set these out on a moist cloudy day. If fair set them out of an evening, and shade them for a few days. In dry weather water occasionally after sunset.

Peas.—Prepare another bed for garden peas and sow at intervals of two weeks for succession. The marrowfats are among the best of the late kind.

Bunch Beans.—Plant bunch beans in drills for the main crop during this month.

Lima and Carolina Beans.—Plant these in hills well manured, six feet apart, and on a light loamy rich soil, get them into the ground as soon as it is warm enough to plant melons.

Celery.—Set out celery plants from the hot bed.

Carrots, Beets and Parsnips.—These should now be seeded if the work has not been done earlier.

Spinach.—Prepare a bed for spinach, make it rich and sow at intervals of ten days during the month.

Onions.—Weed and thin out onions so that the bulbs shall stand three inches apart. Keep the soil clear and light, and do not cover the bulbs.

Turnips.—Thin out early turnips or sow the seed or a crop at any time up to the 10th of the month.

Peppers.—Sow peppers during the first week in the month, to be transplanted when large enough.

Okra Gumbo.—Drill in as early as possible the seed for the main crop of okra—choose if possible a moist soil.

Egg Plants and Tomatoes.—Plants sown in a hot bed may now be set out. If a bed in the open air has not yet been prepared, the work must now be done, and the seed sown.

Salsify or Vegetable Oyster.—Drill in a few rows of this delicious vegetable, let the ground be very rich, and avoid the use of long manure.

Endives.—Sow these for an early crop.

Flower Seeds.—Sow annual and biennial flower seed during the early part of the month.

Watering.—In dry seasons water frequently, but always of an evening after the sun has gone down.

THE JERUSALEM ARTICHOKE.

Helianthus Tuberosus.

In reply to the inquiries of correspondent, we would remark that the "Jerusalem Artichoke" is a plant of very easy culture, and the product is very abundant when managed properly, and not left to occupy, year after year, the most neglected corner of the garden or farm. In the French *Don Jardinier*, M. Yvart, it is stated, has derived from this root "the chief nourishment of his stock," and that the advantages of its culture are numerous and important. This artichoke gives a considerable crop of tubers, suitable for the food of most animals, and the roots never freeze. The plant succeeds upon ordinary soils, and resists droughts well, while its leaves also are nutritious for stock. But the plant has also its faults, above all, that of obstinately retaining its hold in a field that has once produced them. Besides, the aqueous nature of its roots renders them dangerous, it is said, for feeding sheep, if one feeds them a little too much. To remedy the first inconvenience is a difficult matter. The best way is to pasture it in spring with cows and sheep, letting them consume all the stems as they rise, and to then plow them two or three times in July and August. The cooling quality of these roots is cured by the use of salt, but the best way is to give them in connection with dry food, not providing a sheep tubers enough for more than half his daily food; a precaution likewise necessary in feeding sheep with other fresh food in winter. There is not the same inconvenience found in feeding these roots to cattle, but it is best to feed only a moderate allowance at first, to be gradually increased. Artichokes are cultivated like corn, in rows, wide enough for tillage during the summer. The time of planting is in autumn and early spring. The ground, if level, should be checked off in squares, four feet

across, and a piece of the tuber, with three or four eyes, should be planted at each corner where the furrows intersect; keep down the weeds the early part of the season, until the plants begin to shade the ground. It derives a great deal of its nutriment from the atmosphere, and if consumed where grown it cannot fail to enrich land. About five bushels of seed will be needed per acre, if cut up properly. Digging should be done with a plow, running six or eight inches deep, followed by sufficient hands to keep the ground so clear as not to cover the roots exposed with the next furrow. A writer in an old number of the *Tennessee Agriculturist*, states that the young plants which come up the second year are more easily subdued than most weeds, while, if permitted to grow, they completely smother all other weeds. To teach hogs to root after artichokes, a few of them are plowed up and left exposed, which eating, they soon learn where to find others.

The Jerusalem artichoke is also used as a vegetable, served up with "drawn butter" sauce; and it makes quite an agreeable pickle. It is said that the leaves may be used instead of hops, in making beer, and that they contain a great deal of potash. We think, upon the whole, that it deserves a greater share of attention than our farmers and gardeners usually bestow upon it.—*Our Home Journal*.

ABSORPTION BY ROOTS OF PLANTS.

We have been taught by the botanies and agricultural chemistries that the food of plants is taken up in a soluble state by the porous, spongy tissue at the tips of the roots. The peculiar structure of these tips has been carefully pictured, and regarded as a beautiful instance of the adaptation of parts to their uses, of structure to function. But all this turns out to be a mistake, and illustrates anew the danger of reasoning in such matters in advance of experiment. Because the structure of these spongioses, as they are called, resembles sponge, which sucks up water so greedily, the fact that they are the true mouths of roots was looked upon as settled. Recent experiments, however, have shown that where these spongioses are the only parts of roots supplied with water, plants wither and die; while, on the contrary, if they are cut off, and the lower half of the root left in water, the plant continues fresh and vigorous. Further experiments have shown that the seat of absorption is in those parts of roots that are covered with fine hairs called root hairs. They are mere tubular extensions of the external root-cells, and are usually invisible without microscopic aid. It is to the newer parts of roots, where these hairs are young and active, that the soil adheres with remarkable tenacity; while the growing tips, which have not yet put forth hairs, are seen to be quite clean of the soil when plants are pulled up by the roots. It has been observed that these absorbent hairs are more abundant in poor than in good soils. The roots of those plants which are destitute of hairs have a highly absorptive cuticle and numerous rootlets.—*Boston Journal of Chemistry*.

NOTES AND COMMENTARIES.

BY PATUXENT PLANTER.

TOBACCO WORMS.

The use of cobalt, as recommended in the article clipped from *Tobacco Leaf*, inserted in the February number of the *Maryland Farmer*, is not a new idea. Twenty years ago it was highly recommended by the late muchly lamented Major Hughes; who was a skillful and scientific planter, and an able agricultural writer. It was extensively tried, and was found very effective, but the want of general union in a large area, to effect this desirable object—the destruction of this pest to tobacco—caused its use to be abandoned. No doubt if all the growers of the plant in an extensive section would energetically and faithfully agree to use this remedy, and also follow for a few years the suggestions I now offer, they would get rid nearly, if not *entirely*, of this dread enemy of the tobacco plant. I would suggest, 1st, early in spring dig up the floors of the tobacco houses, under the sills and around for some distance, the houses; and from three to ten inches they will find the worm in the chrysalis state, preparatory to emerging into the “horn-blower” or tobacco butter-fly. Let them be gathered carefully and burned. Begin the use of cobalt with the first blossoms of the Jamestown weed. Encourage the growth of some plants around the tobacco lots, or plant them. 2nd. Offer to all, old and young, two cents for every horn-blower brought to them, pay promptly, and burn those brought in, or they may come back once or twice more. 3d. Each planter for a year or so, keep large flocks of turkeys and Guinea fowls. 4th. Destroy every worm it is possible, and particularly look for and destroy the eggs, which are easily seen in clusters, or sometimes singly, just before they produce the worm. Let farmers club together and use their influence to get as many planters as possible to enter heartily into this system for two or three years, and they will save thousands of pounds of tobacco, and be rid for years of the costly and filthy work of “worming tobacco.” This plan was tried once in a neighborhood in Prince George’s County, with great effect; and the experiment clearly showed that if the system was faithfully executed by each planter in an extensive region, there would be no worms to destroy tobacco, or be destroyed by the toil and disagreeable labor of the planter, at least for a long time. I believe such a plan carefully followed by a single farmer, would well repay, by the number of worms it would lessen; for the horn-blower does not travel far. It is a curious fact, that while the female horn-blower, or sphynx nicotianum, lays thousands of eggs, the male dies from exhaustion after a single coition.

FERTILIZERS.

The experiments of Mr. Dixon, of Georgia, published in the February number of the *Maryland Farmer*, are of great use, and should be made by every one who buys fertilizers. Every farmer ought to buy small quantities of different kinds, and by careful experiments judge for himself, which is best for his soil, locality, &c., and which suits the various staple crops. That which may act well on one soil, may not so act on another; and that which suits best one sort of crop, may be a failure with another kind of crop. This can only be satisfactorily ascertained by careful experiment. When he fixes upon that or those fertilizers that give him satisfaction, by returning the largest profit on the expenditure, he must be careful in buying largely of it, that he is not cheated by adulteration. It is not every mixer of compounds, who continues after the first lot ordered, and gets a florid certificate of its wonderful effects, to send out to the same certifier the genuine, pure article. Farmers who give certificates, should, if the article proves to be worthless, be manly enough, and generous enough to their fellow-farmers, and for the sake of their own characters for honesty and truth, furnish agricultural papers with a statement that the article recommended had failed after the first trial. This would break up a great deal of fraud on the part of manufacturers, and the honest dealer in fertilizers would eventually reap his reward for his skill, science and integrity. When the farmer finds what suits his land and his crops, let him not use it sparingly. Like all who have tried it, Mr. Dixon says where he used the largest quantity of a genuine fertilizer, he reaped the largest gain upon the amount expended. It is so with all manures, the heavier the dose the better it pays; the amount of crop will be increased in a greater degree, in proportion to cost, and labor saved by working a smaller area. Among the cheaper manures, and less likely to be adulterated, is salt and plaster. They should be mixed well, and applied to wheat, and on clover about April, at the rate of four bushels salt to two of plaster; why the two should be mixed I am not chemist enough to explain; but experience taught it me more than fifteen years ago, when I used on several acres of wheat, from five up to ten bushels per acre of what was then sold as “refuse salt,” on newly sown wheat, on very thin, light, slightly gravelly land, and on a part I mixed four bushels of salt and two of plaster, per acre; same sort of land. The last gave a much better yield of wheat than where salt was used. The wheat, however, was poor, as it was a general failure that year. Where I put the largest quantity of salt, the wheat grew fast and was a remarked green spot in the field the whole year, and the clover was fine over the whole piece

experimented with, though perhaps better where plaster was mixed with the salt. Clover, to my knowledge, had never grown there before. It is true it was a fine season for clover, coming up and growing; but I thought it merely better where the salt, and salt with plaster were used, than where the land was richer and no fertilizer used except plaster, as usual sown in spring over the whole field of young clover.

The manufacturers of fertilizers do themselves injustice often, by fixing the quantity to be used per acre, too low. And the farmer often does gross injustice to the fertilizer, by using so little as to be scarcely perceptible in its effects—men who have earned their money hard, and paid a high price for what seems so little, ill-smelling dirt, are prone to spread it over too much space, saying, "if it is worth anything, it costs too much not to go as far as I can make it go." This is practically proven every day; I see the same men who "calculate" to sow two hundred pounds of some fertilizer on an acre, and in fact do not sow one hundred pounds; sow on their tobacco beds four to eight hundred pounds per acre, and with decided advantage. They have tested, and know they are acting wisely by this heavy outlay; yet they are hard to convince that it would be more economical to put four hundred pounds of some fertilizer on one acre, than to work two acres with two hundred pounds per acre. I refer to very poor land, which is the only land I believe the new-fashioned "mixtures" will pay to be used upon. Lime, ashes and pure bones, are the only manures that will permanently pay, or can with advantageous profit, be applied to a fertile soil capable of producing eight barrels of corn. For such soils, the above named manures are the only sorts which can be relied on to return with large interest the cost of their application. On such lands a dressing of fifty bushels of lime, ten bushels of bones, or twenty-five of unleached ashes per acre, with proper system of rotation afterwards, and salt with plaster, applied yearly to the young grass, will keep up a high state of fertility. Except these three great improvers of land, every man can have on his own farm an exhaustless manufactory of the best and most reliable fertilizers. This manufactory is a large barn-yard, well stocked with well fed animals, and the ingredients for the mixture the farm furnishes in the shape of muck, leaves, hay, straw, cornfodder, grain, woods' earth, ditch banks, sod from fence corners and head-lands, weeds, wild grass, tussocks, &c., &c., with a small money outlay for salt and plaster, to be intermixed with the compound.

The average yield of corn to the acre throughout the Southern States last year was twenty-six and a half bushels.

For the Maryland Farmer.

ECONOMIC USES OF SODA.

Few articles are of greater importance in domestic economy, as well as the arts and manufactures, than soda. We propose to mention some of its uses in domestic routine:

In the kitchen its presence is indispensable. Along with cream of tartar it enters into every loaf of bread, and forms a part of all the pastries. For cleaning and sweetening the kitchen and dairy utensils, it has not an equal. It effectually removes grease or acids from copper vessels, and rust from tin or iron. The milk pans, so apt to acquire a disagreeable smell in summer, particularly after a thunder-storm, may be rendered sweet again by using a small portion of soda. A solution of it is excellent for cleaning foul bottles and casks; and also for boot-tops, saddles and bridles, preserving the original color of the leather. In short, for cleaning all vessels used in the kitchen, whether made of wood, iron, tin or copper, that are liable to get foul, it is the best thing that can be had—much better than soap.

For washing clothes, too, it is unrivalled. Four ounces of soda, and six of soap, are equal to a full pound of soap without the soda. It makes hard water soft, removes grease and stains from woolen or cotton goods, prevents woollens from shrinking, and dispels all unpleasant odors from clothing. The saving in soap alone, will three times pay for the soda used.

As a medicine, it is quite useful. A weak solution of it makes an excellent gargle for cleansing the throat, mouth, and gums; and a small portion occasionally swallowed, removes a fetid breath. It will whiten the teeth, correct acidity of the stomach, and a small portion put into the water when bathing the body, is very conducive to the health of the individual. It opens the pores of the flesh, and removes the disagreeable odors arising from profuse perspiration. An article useful for so many purposes, and so cheap, should surely become better known, and be more generally used in our American homes. No house-wife should be without a large supply. A spoonful should be placed in the teapots every time the dishes, plates and cups are washed. It should be used largely every washing day, and every time the floor is rubbed. In short, wherever anything is to be *cleaned or sweetened*, this article should be employed. JONES.

VINEGAR MAKING.—A capital article of cider vinegar is made by setting a barrel of cider in the full sun—on blocks, of course—taking out the bung, and in its place inserting an inverted porter bottle. This will admit light, but not insects or vermin, which, though they may not affect the quality, spoil the mental enjoyment of the liquid.

For the Maryland Farmer.

FERTILIZERS.

BY D. LAWRENCE.

As this question occupies a prominent position among the subjects agitating the agricultural world and as many have contributed the results of their investigations of the matter to alleviate the burdens which fertilizer bills impose upon the farmer, and as anything tending to improve that branch of our industries has a powerful influence for good upon so many other arts, interests and industries, I feel called upon to contribute my mite upon the subject, and herewith submit the results of my investigation, having acted as one of a committee appointed for that purpose.

1st. I find that all purchased fertilizers are characterized by irregularity of action, and while that irregularity is in many instances the result of improper application and cultivation, unsuitable soil and unfavorable seasons, there is good reason to believe that fertilizers have been wilfully adulterated by the manufacturers. 2d. Farmers are too much in the habit of neglecting the sources of fertility upon their own farms, such as waste liquids and solids from house and barn, ashes, hen manure, leaf mold, muck and other fertilizing substances, usually uncared for. 3d. Farmers depend too much upon manufactured manures, and not enough on the lime so abundant in many sections of the State, and other cheap, but when properly applied, efficacious articles, plaster, salt, bone dust, ashes, &c. 4th. After every available source of manure has been exhausted at home there will still be a deficiency, and to supply that deficiency to secure themselves from fraud, to save money and enjoy the advantages of a home manufactory, I advise farmers to *make their own manures*, believing that by that course they may save from fifteen to thirty dollars per ton, on the manure so made. Before going into details upon this feature of the question, let us see what elements are required to make a good fertilizer. If we take sand, subject it to heat to destroy any plant food it contains and plant therein a grain of wheat, and moisten only with distilled water (Prof. Ville's experiments,) the product will be exceedingly small, but if assimilable nitrogenous substances and potash, lime and super-phosphate of lime, with humus vegetable mold are added, the result will indicate the necessity and value of these articles. The product of twenty grains sowed in burnt sand, was ninety three grains. The same amount of seed produced in a bed of the above mentioned article, four hundred and seventy grains. In different experiments, some of these articles were left out, with a diminished yield, the best results attending the employment of

all these articles, viz: ammonia, potash, lime, humus and super-phosphate of lime.

These experiments indicate what the plant food will produce; let us see what the *plant* itself will produce when its organic constituents have been removed by calcination, and the ashes subjected to chemical analysis. Wheat, oats, corn, rye, barley, peas, beans—the grain and straw of each—potatoes, tops and tubers—turnips, tops and bulbs—tobacco, clover, lucerne and meadow grass, they treated, exhibit percentage of lime, phosphate of lime and potash, ranging from one per cent of lime in the grain of corn, to fifty-six per cent. of potash in the tubers of potatoes; hence to secure successful and profitable growth of crops, we must combine their constituents in a manner to render them assimilable by the plants. We now look to see how the farmer can use these articles most profitable to himself; and to throw some light on the subject I give my method of combination which I have never seen published. To make one ton of manure I take

Materials.	Quantity.	Cost.
Bone dust.....	700 lbs	\$15.75
Oil of Vitriol, 66°.....	160 "	4.80
Sulphate of Soda.....	100 "	1.50
Sulphate of Ammonia.....	50 "	4.00
Plaster.....	320 "	1.75
Dryer.....	670 "	.00
	2000	\$27.80

Potash is omitted, but will be referred to below.

Procure a 120 gallon tight hogshead, saw in two, and use these for moistening the bone dust; put about 170 pounds bone dust in a tub at a time, and stir in water until the dust is laid: fine bone dust take about 8 gallons for this quantity; remove as fast as moistened, and let all the bone remain in one heap for three or four days; in the meantime, prepare the dryer. I have the hen-house and earth closet (after Waring's method) arranged so that the usually wasted materials from those sources are carefully husbanded; these I gather (twice a year for spring and fall use) also rich earth to make a sufficient quantity of dryer; these with the plaster are well incorporated. It is not necessary to be particular in regard to the quantity of this dryer; a good fertilizer in itself, it affords an excellent opportunity to render available *all* suitable fertilizing agents usually neglected on the farm, such as muck, ditch banks, ashes in limited quantities, (too many ashes tend to evolve the ammonia of the compound, but where a sufficient quantity of dry earth (not sand) is used as an absorbent there could be no harm done by the potash) rotten wood, etc., etc. Spread half the whole quantity of dryer on the floor or ground when ready to begin operations—two, three or four inches thick according to quantity—and over all this spread the dissolved bone, then put the remaining dryer on this, then the soda and ammonia evenly, and thoroughly incorporate

the whole mass. As the dissolution of the bone is the most difficult part of the operation, I give my plan: Into each tub I put about two bushels and a half of the moistened bone, so that it lies slightly concave in each tub; upon each I pour about thirty pounds of the vitriol, (not quite two gallons) and stir quickly for a few moments until well mixed; I let this stand five or six hours in the tubs, spread it on the dryer and make another mess; this allows time to prosecute the usual labors of the farmer.

It will be noticed this formula omits potash. where a sufficient supply of unleached ashes is at hand or wherever the soil contains sufficient potash (as many soils do,) it need not be added and the farmer has this advantage in manipulating for himself; he need not purchase an article of which he has a sufficient supply at home or in his soil. Where potash is desired in the fertilizer, the muriate of potash 80 per cent.—may be used, say 100 pounds to the ton. A cheaper article is on the market known as Prussian agricultural salts of potash, whose virtues I have not yet tried. The sulphate of ammonia may also be omitted if the farmer can save sufficient ammoniacal liquid from the house and barn, to supply the ammonia. From a comparison of the effects of this home-made article with those produced by purchased compounds, I am led to the conclusion that farmers can make at least twenty dollars per ton, on every ton they use made in accordance with the above directions.

CULTIVATION OF THE CURRANT.

David Z. Evans, Jr., of Chesapeake City, Md., communicates to the *American Rural Home*, of Rochester, New York, the following on the cultivation of the currant:

Thinking that our methods of planting, cultivation, gathering, marketing, &c., would interest as well as instruct, I will endeavor to give them, giving only such plans as we have found both successful and profitable.

Preparation of the Soil.—Our first step is to select a suitable soil—a loamy one, or clay loam, being, in our estimation, the best one for the successful growth of the currant. When you have decided upon the locality, give the piece a good, deep plowing, and if it be poor, give a top-dressing of good manure first, and then harrow it both ways thoroughly; when this is done open one-horse furrows the length of the piece five and a half or six feet apart, so as to give sufficient room for cultivation, for in three or four years the plants will spread considerably, taking up much more room than one would at first suppose. We planted a large plantation three and a half feet apart, and were obliged to widen the rows to the width given above. It is

desirable to run the plow back and forth in the same furrow, to clean out as well as to deepen them; we next make cross furrows from four to five feet apart, or else make the mark by the aid of a heavy chain, dragging it along; then spread fine, short stable manure along in the furrows, to give the plants a start, and to induce them to send out small rootlets immediately. We are now ready to plant, which is done as follows:

Planting.—Choose a murky day, in preference to a warm, sunshiny one, and let the time be in the fall early, or very early in the spring, as the season is favorable. First, before planting, dip the roots of all the plants in thin mud, so as to make the earth cling to the roots, and put one plant at the intersection of the furrows; draw a small quantity of soil from each side of the furrow with the foot, trampling it down firmly; and thus continue until one or two rows have been set out, when you should plow a good sized furrow to the row on each side, to give the plants the necessary amount of soil, as well as to protect them from injurious influences, such as frost, sun, &c. You should not do more than two or three rows at a time, before you plow to them; or, better still, have several attend to the planting, and one to the plowing.

Cultivation.—The cultivation consists, if the plants have been put out in the fall, in giving the rows a good scratching as soon in the spring as you can, and continue to run the cultivator between the rows every two or three weeks, for the double purpose of keeping the weeds in subjection, and rendering the soil loose and mellow, giving the plants every opportunity to make a good growth the first year. Give a thorough cultivation late in the fall, and then throw furrows to the rows on each side. In the spring following, very early, throw a furrow from the rows of plants, and close up to them, and spread a good coat of fine manure along them, covering it up as soon as possible with a one-horse plow.

Picking, Marketing, Profits, &c.—We generally pick our berries, when red ripe, immediately into quart boxes or crates, and ship at once to market in chests, the same as is done with strawberries. They should be left to get perfectly ripe, and then be picked and placed in the boxes with care, and some little neatness, for a due care to this apparently very trivial point is often the means of obtaining two, three, and even more, cents a quart above the regular market price, which is quite an item in a large lot.

The profits depend, in a great measure, on care, earliness, ripeness, &c.; but we might say that from \$60 to \$75 per acre, clear, can be realized by careful culturists.

Don't depend upon your own lungs alone; use the lungs of the Press.

AGRICULTURAL CHEMISTRY.---VIII.

BY J. S. H. BARTLETT, M. D.

MANURES, AND THEIR EFFECT ON VEGETATION.

Having described the nature and character of the several earths, and their combinations necessary to secure the best conditions for productiveness, it remains to treat of the different manures necessary to be applied, in order to feed the crops that it may be desired to raise on the soil composed of these earths. Under the general head of manures are comprehended all those substances which, existing in the atmosphere, or combining with the soil, can be appropriated by the organs of plants and thus contribute to the progress of vegetation.

Manures may be classed under two heads, the first, nutritive, or those which supply plants with nourishment; the second, stimulating, or those which excite the energies of their roots to increased action. With the stimulating manure alone a plant cannot be expected to support continued healthy action any more than a horse could be expected to perform a journey under the stimulus of whip and spur, without the nourishment afforded by his grain and other provender. Hence it is that the judicious agriculturist does not apply stimulating manures to a soil that is not already in "good heart," as it is termed. For the present we will treat of the nutritive manures, as being the most important in their action upon vegetation. This class is composed of those which contain juices or other substances, which, being highly soluble in water, or otherwise capable of minute division, can be drawn into the organs of plants. These substances are not always employed in the natural states, but are allowed to putrefy or ferment, as the gases thus produced, such as carbonic acid, carburetted hydrogen, azote and ammonia, furnish food for plants. It is not well, however, to prolong this decomposition too far, as the bulk of the manure would be reduced to some fixed salts, mixed with those matters which had resisted its action. Besides, the effect of manures which have been too far decomposed, is not as lasting as that of those which have not arrived at this state. The excrements of animals, formed by the digestion of their food, has already undergone decomposition, which has disorganized the principles of their aliments, and in a greater or less degree changed their nature. Some kind of excrements, as of the feathered tribes, are employed without undergoing any new fermentation, because they consist mostly of salts and contain but few juices, but the dung of horses and cattle is generally made to undergo this process before being applied as manure.

One of the most useful arts in agriculture, and that which needs great care, is the preparation of dung heaps. It requires the application of certain chemical principles, but it will suffice to state the rules by which the agriculturist should be governed in his proceedings. Solid substances, whether animal, vegetable, or mineral, cannot enter into plants unless they are previously dissolved in water. Animal and vegetable substances which are by nature insoluble in water, may, by being decomposed, form new soluble compounds capable of affording nourishment for plants. Animal and vegetable substances deprived by the action of water of their soluble particles, may, in course of their decomposition, form new compounds susceptible of being dissolved. Instances are given of this in a former article on the subject of vegetable molds.

Some of the methods of employing dung heaps are attended with a loss of manure. When the material composing them is of too recent a character, and they are applied to the soil in that state, although vegetation is benefited to a certain degree by the salts and juices contained in them, the fibers, oils, and other extractive matters remain inactive in the earth, and their final decomposition is slow and imperfect. Again, if they are heaped up in the farm-yard, the mass is apt to take on too great heat and become *fire-fungus* as it is termed, and its valuable gases to be "dissipated into thin air." Again, where fermentation is not allowed to proceed as far as above, there is still a loss by mismanagement, of a considerable portion of the value of this fertilizing material. The method commonly adopted is to throw out into the yard the dung and litter from the stables, adding to the mass every time these are cleared out, and allowing it to ferment until it is carried upon the field requiring it. This method presents many objections. In the first place, several successive layers being formed, no two of them can have undergone the same degree of fermentation: in some it will have gone on for six months, and in others but a few days. In the second place, the heap being exposed to the rains, will, by frequent washings, have parted with a large portion of its salts and soluble juices. In the third place, the extractive matter of the central and lower portions of the mass, the mucilage, albumen and gelatine, is apt to be entirely decomposed; and lastly, those gases which nourish plants when developed at their roots, will have escaped into the air.

The greatest part of the substances constituting animal and vegetable matter is soluble in water, and it is evident that in that state they can be employed as manures without previous fermentation. It is necessary, however, that those which contain much insoluble matter, should be decomposed by fermentation, because by that process their nature

is changed, and they form new compounds, which, being capable of solution, can pass into the organs of plants. It is requisite in producing the fermentation of dung and litter, to use certain precautions by which the disadvantages arising from the usual mode may be avoided. Instead of heaping up in large masses the collections of the barnyards and stables, and allowing them to rot exposed to the changes of the weather, they should be placed under cover, to be at least protected from the rains.

It would be better that the mass should not exceed two feet in thickness, and when it begins to smoke, it should be turned to prevent decomposition from going too far. Fermentation should be arrested as soon as the straw contained in the heap begins to turn brown, and its texture to be decomposed, because, if allowed to proceed further, carbonic acid will be rapidly evolved, by which the quantity of the manure heap will be diminished; besides hydrogen and nitrogen, the elements of ammonia will be given off, by which its quality will be impaired. The manure is now in condition to be applied to the land, but if not wanted for immediate use, it should be turned over and mixed with mold or some suitable earth, which, by acting as a divisor, would delay further fermentation and absorb the valuable gases which would escape and be lost. The manure heap will now assume the character of a compost-heap, the advantages of which are, that the more volatile gases are absorbed and kept from being wasted, and the silica of the earthy division is being rendered soluble by the carbonic acid which continues to be given off, and is ready to form soluble silicates with any bases that may be met with in the soil to be cultivated.

The experienced and intelligent agriculturist will find no difficulty in reconciling practice with the theory of this matter of fermentation. Before actually deciding the question how far manure should be allowed to ferment, it will be necessary to take into consideration the nature of the soil to which it is to be applied. If this be compact, clayey and cold, it is as well that fermentation had not taken place, and an advantage might be claimed for unfermented manure when it is to be applied to a soil in this condition. The soil will be benefited by the dividing and softening it by manure in this state, and rendered more permeable to air and water—besides, the successive processes of decomposition would be attended with a degree of warmth desirable under such circumstances. The proper way, however, in the first place to treat such a soil is, by thoroughly underdraining it, as the cultivator cannot derive the full benefit from the application of any kind of fertilizers without this previous necessary amelioration.—*Jour. of Applied Chemistry.*

For the Maryland Farmer.

SUPPORT FOR GARDEN PEAS.

The trouble and difficulty of getting out a large number of sticks to support their pea vines, often deters many from planting this excellent early vegetable as largely as they otherwise would. A cheaper, and withal a better support may be made as follows:

Get out some sticks about five feet long, and a little larger than those commonly used to support peas; drive down a row on each side of your row of peas, having the sticks about eight feet apart along the row, and the two rows of sticks about eight or ten inches between. Drive them in the ground far enough to stand firmly, leaving them, we will say, three and a half or four feet high. Now get some small poles, or split slats out of fence rails, or take pieces of light, narrow plank, and nail them to the stakes longitudinally, one on the top, one eight or ten inches from the ground, and three more at equal intervals between these. Do the same on both sides of your row of peas, and as the vines grow take care to have them come in between the trellis. You will find this support much cheaper than sticks, easier to put up, and it will be handier to gather the peas. Instead of the slats nailed across, you may use a good strong twine, tying it to the first stake, and wrapping once around the others. This twine, if tarred, and put under shelter when not in use, will last a lifetime.

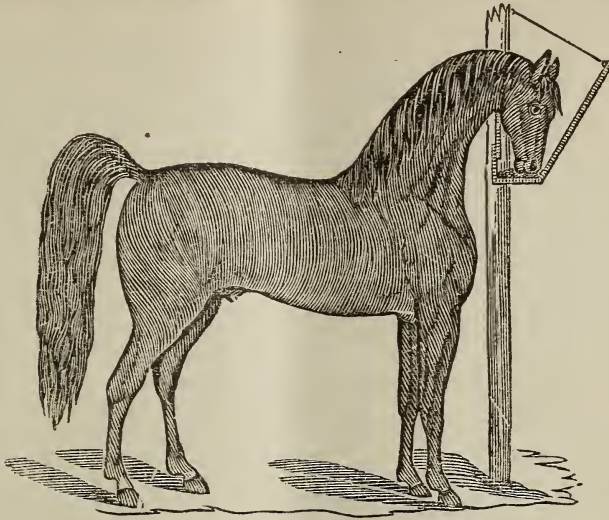
JONES.

ORCHARD GRASS.—A correspondent of the *Rural New Yorker* gives his experience with orchard grass as follows: "I have had it growing on my farm for five years, and have found it is valuable for a pasture grass and for hay. It stands the drouth well with me, and the winter also. Its roots penetrate the soil to a good depth, and grow in the shape of a hen's foot. The stems grow up bunching. The seed can be sown in Fall or Spring; but the best time is to sow it in Fall. The soil on which I have it growing is a clay. The seed can be sown with clover in Spring, as the two together make an excellent grass for hay or pasture."

ASHES FOR PEAS.—The *Rural New Yorker* says: "A woman sent us the following from the diary of her market garden: In the spring of 1866, in sowing peas we ashed some in the row, leaving other rows unashed. The difference was remarkable. Those that were ashed were more thrifty, of darker, richer color, producing at the time of picking larger pods and a superior quality of peas. The same is true of turnips."

LOAM.—This is a technical term used in gardening. All know what is sand, and what clay is. Loam is a mixture of both. Light loam has more sand—heavy loam more of clay.

WILKINSON'S SYMMETRIZING RACK AND MANGER.



THE SYMMETRIZING RACK AND MANGER.

The effect of training the physical structure of man and the lower order of animals, has produced some very interesting results, and has established the fact that radical changes may be produced in the natural conformation.

The cadet, or military student, is developed in the chest, and given a fine graceful carriage by disciplining and drilling for that purpose; the Indian papoose is lashed on a board, and thereby given an erect figure; hence the proverb, "*as straight as an Indian.*"

The feet of the Chinese are checked in growth, until those of an adult are no larger than those of a natural growth at eight or ten years of age.

The old coach-horse which has long fed from a high manger, and been long accustomed to being severely reigned up, can scarcely get his head to the ground, in fact he cannot, without spreading his front limbs, or bending the knees.

These examples of the effect of training and forming the animal structure, furnish reliable evidence that we may fashion the horse very much as we please by commencing at an early age, and using the necessary appliances adapted to the object desired.

We have given an illustration of what we denominate the *symmetrizing rack and manger*.

The object of this feeding arrangement is to require the animal to take the position shown in the cut at all times while he is feeding in the stable.

By beginning with the foal, as soon as it will take food, and adjusting the rack so that it can just reach

the food when it has distended and arched the neck all that he can bear, without occasioning too much discomfort, and by readjusting the rack as the growth of the animal requires it, the elegance and symmetry illustrated in the figure, may be produced in the matured animal.

This is by no means an exaggerated figure of a symmetrized horse, on the contrary, the curvature of the spine, and the elevation of that portion of it where it becomes a tail, fall far short of what may easily be produced.

The horse cannot feed from the rack as represented, without depressing the posterior portion of dorsal section of the vertebræ, and the entire lumbar section, and elevating the sacrum and the coccygeal sections, or depressing the back from the withers to the highest portion of the rump, and raising all back of that point, thus producing the most graceful curved line imaginable, from the crown of the head to the tip of the tail, and symmetrizing the entire configuration of the animal; which characteristics will be perpetually maturing until their permanency is secured.

This operation we recommend only in cases in which the breed and character of the colt is such as to adapt it to the purposes of the saddle, the light carriage, and the family coach.

For these uses, style and symmetry add materially to the value of the animal.

For draught purposes, artificial symmetry produced in the manner described, is not only unnecessary, but is actually injurious to some extent, as the tendency of this configuration is to narrow the

For the Maryland Farmer.

Clover---OATS---RUST ON WHEAT.

I read with interest, a short article in your last number on saving red clover for hay, taken from the *Germanstown Telegraph*. Away down here in Dixie, King Cotton is rather losing, I *hope*, that place in our affections he once had, now that he has ceased to pay his subjects; and we are becoming more interested in cereals, clover and grasses, their culture, and conversion of latter into hay, and finally into manure, to reproduce, &c.

I have had a little experience similar to that expressed in the article alluded to. I have cut two small crops of red clover, and clover mixed with orchard grass—both cured partially in the same way. Last year I cut after the dew was off, raked into winrows with horse rake at once, and as soon as the dew was off next morning turned over, and hauled up the same evening—scattering about the barn. When the barn was needed for other purposes it was packed down, and I never had, or desire, better forage for cows, mules, or horses. Just here, let me say, all forage would be much more valuable cured in the shade, than when sun-dried.

It is proper to state that the clover was rather ripe, and cured rapidly. The clover and orchard grass were sown with rye the November previous. All came up well; some of the rye was cut two or three times, and fed green; the remainder cut and put in a house, (scattered) at once, and cured finely. But the stock don't like it, was too old; ought to have been cut when about waist high, and it would then have given another cutting, and been much more tender. A rain just then started the grass and clover off finely, and on the best ground there was in due time a fine cutting, and now the prospect is good for two or three cuttings, if the weather should not be too dry and hot, in July and August.

But I have another crop of clover which would almost excite the envy of even a Marylander, were he to see it. My milch cows have been on it several weeks, and might have been all of March, but for the excessive rains keeping the ground too wet to be trampled. Everybody ought, and but very few have, a lot of it. It is the yellow or Chilian clover. It is an annual—comes up in August and September, grows all winter, is now blooming, dies next month, and seeds the ground again. Sheep may be kept on it until it is dead, and they cannot keep it from seeding. It is a creeper, but will grow up two or three feet if in reach of anything to hold it up. Mine is higher than I ever had it before, because it is thicker, I suppose, and could be cut with a mower. When cut and cured, cows are fond of it. Cows, hogs and sheep, eat it greedily when green, but horses seem to care but little for it. I

suppose they might be taught to love it. There was an article from some paper a month or so ago, to which I cannot subscribe, because facts show to the contrary. It was that oats were not considered an exhausting crop, rather the reverse, and that rust on wheat was caused by grass growing with wheat. As to the former, down here we think the oat one of our most exhausting crops. It may be because in days of yore we kept too many cattle, and pastured too close after the oats came off; and it was the exposure to hot summer sun, which caused the injury to land instead of the oat crop taken off. I can't think grass with grain causes rust. It must be owing to some peculiar state of the atmosphere, at certain stages of its growth. On some peculiar soils cotton always rusts; while in the same field, on another character of soil, there is none. I don't know that rust on cotton and wheat is the same thing, but some seasons it is almost universal, but few crops escaping. Of late years, oats as well as wheat seem to have been more subject to it than before. From last year's crop we had hoped another change for the better was taking place. It is generally worse on late sowings; but I heard the first of this month of a crop of wheat sown in October, now ruined by rust. Again, most of the oat crop was not sown until late, and had too little time to mature in. Hope our experience may change, as we now endeavor to sow several months earlier, in August or September, giving nine or ten instead of three or four months to make in; and from necessity our harvest-fields are not as closely pastured in these days of freedom—fences have gone to rack, and we are no longer burdened with taking care of too many cattle.

Since the war I have been breaking up wheat land with two horse turn plow—barrowing, and sowing with drill, with no grass or clover but once; and generally, though the ground has kept very light and mellow, it has been almost as clean as if cultivated until about harvest; when weeds, and may be crab-grass, would begin to get through, and still rust in abundance, (until last year there was but little,) sometimes rising like a cloud of dust from the reaper. We regard early sowing to secure maturity before rusting, the best remedy; but on the other hand, April frosts have to be risked.

JOHN T. WINGFIELD.

Washington, Ga., April 13th, 1871.

A SIMPLE CISTERN FILTER.—The *Manufacturer and Builder* gives the following directions for a simple filter to purify cistern water: "Place on the perforated bottom of a box a piece of flannel, and on this coarsely-powdered charcoal, then coarse river sand, and cover the whole with sand-stone broken into small pieces."

ASHES, LEACHED AND UNLEACHED.

Wood ashes have been recognized and used as a manurial agent by nearly or quite all the civilized and semi-civilized nations that have ever existed on the earth. The Roman farmers in the days of the Republic and the Empire were in the habit of burning the stubble of their grain fields and using the ash to enrich succeeding crops; and that stern old husbandman, Cato, recommends the burning of twigs and branches of trees, and spreading the ash upon lands. The Indians of this country and of South America were led by observation to know the value of ashes, and often burned the stems and leaves of the corn plant to improve the soil. There has never been a time, however, when a higher value was placed upon ashes than the present, and this estimate is by no means an exaggerated one. Inquiries are frequently made regarding the comparative value of leached and unleached ashes; and in order to answer them, let us consider the nature or chemical constituents of the two heaps as we find them at the soap-boiler's. In one bin are the dry, fresh wood ashes; in another the wet, lixivated mass as thrown from the leach tubs. If the former are like the ashes produced in our own dwelling, by burning in the open fire-place oak, pine, hickory, birch, and maple woods, a bushel will weigh about 50 lbs., six and three fourths pounds of which are soluble in warm water. Of the soluble constituents there are a little more than $4\frac{1}{2}$ pounds of potash and soda, the remainder being the sulphuric, muriatic, and carbonic acids with which the alkalies are combined. Forty-three pounds are *insoluble* in water, and consist of

Carbonate of lime.....	32 lbs.
Phosphate " ".....	3 lbs.
Carbonate of magnesia.....	4 lbs.
Silicate of lime.....	3 lbs.
Oxides of iron and manganese.	1 lb.

It is the work of the soap-boiler to remove from ashes that which is soluble in water, which is accomplished in the leach tub, and this is all the change they undergo in his establishment. The ashes go in dry, holding the soluble and insoluble substances; they come out wet, deprived of $6\frac{3}{4}$ pounds of potash and soda. It should be stated, however, that about one pound of quicklime is added to each bushel of ashes in the leach, to render the lye caustic. This adds one pound more of lime to the insoluble residuum, or the leached ashes, making it weigh, if it was free from water 44 pounds. In leaching, the ashes do not change much in bulk, but they are largely increased in weight from the contained water.

Now, what is the commercial value of the ashes before and after they pass through the soap-maker's hands? In the dry state the

$4\frac{1}{2}$ lbs. of potash and soda are worth 6 cts. per lb.	27 cts.
Other soluble constituents.....	3 "
32 lbs. carbonate of lime.....	3 "
3 lbs. phosphate of lime.....	6 "
3 lbs. silicate " ".....	0 "
Iron and manganese.....	0 "
	39 cts.

This estimate, which is a fair one, gives a value per bushel of 39 cts., that is, the substances found in a bushel of good sound wood ashes are worth in the market that sum at the present time. By leaching the ashes, 30 cts. of the commercial value is removed and converted into soap; this leaves 9 cts. as the value of the constituents of a bushel of leached ashes. The silicate of lime and the metals practically have no market value, and are not considered.

What is the agricultural value of the two forms of fertilizers? The ashes holding all their normal constituents are worth more applied to soils than for other uses when separated, dollars and cents being considered. A bushel judiciously employed will return in most seasons 60 or 70 cts. worth of products the first year. The potash and soda combined as they are in ashes, in the form of carbonates, sulphates, and silicates, are in precisely the right condition to be readily assimilated, and also to aid in rendering assimilable many important constituents of the soil.

The leached ashes also are worth more to the farmer than 9 cts. the bushel. Relatively they are worth more for soil employment than the unleached, regard being had to the commercial value of the substances when separated. A good honest bushel of moist leached ashes will give returns the first year of the value of 15 or 20 cts.; and owing to the peculiar decomposing influence upon the insoluble constituents of the soil of the silicates, etc., remaining in the mass, their influence extends outside of themselves and continues for a long time. A pound of phosphate of lime found in ashes is worth more than a pound of bone dust, as it is in a condition to be readily taken up by plants. The carbonate of lime, we are inclined to think, is worth more than chalk or the same agent in other forms, inasmuch as it has once passed through plant structures.

The estimates here presented are only rough ones, but they are sufficiently exact to serve as a guide in learning the value of leached and unleached wood ashes. We have experimented considerably with ashes in both forms, upon soils of various kinds, and what we have here stated is the result of our practical experience. We shall present soon another article upon ashes, as there is need of more extended remarks than we have room for at present.

Don't depend alone upon your own hands, or the labor of other men's hands; use steam-power if possible.



ELVINA 3d,

At 34 months old. Red and white; calved July 21st, 1867; property of Chas. E. Coffin, Muirkirk, Md. Got by 11th Duke of Thorndale, 5611. Dam, Elvina, by Duke of Geneva, 3858.

Elvina 3d was winner of the 1st Premium for heifers between two and three years, at the Maryland State Fair of 1869, and 3d Premium for cows, three years and over, at Virginia State Fair of 1870.

Elvina 4th, full sister to Elvina 3d, was winner of the 1st Premium for heifers between one and two years, at the Maryland State Fair of 1869, and winner of the 1st Premium for heifers between two and three years at both Maryland and Virginia State Fairs of 1870.

Elvina, dam of the two heifers, was winner of the 2d Premium for cows three years and over, at the Maryland State Fair of 1869, and winner of 1st Premium for cows three years and over, at the Virginia State Fair of 1870.

Elvina 3d calved a red cow calf, June 8th, 1870, by 4th Duke of Geneva, 7931 and gave, when fresh, 13 lbs. of milk at a milking, milked night and morning.

CULTURE OF THE HORSE-RADISH.—The cultivation of this vegetable is as simple as anything can be, says the *Germantown Telegraph*, though we find most elaborate directions for it in some of our side-walk agricultural journals. The soil should be deep and moist. Cut off slips from a root with a little of the crown and plant three or four inches deep in rows, if for field culture, so as to admit of handy working. If in a garden it matters little whether in rows or not, as it soon sprouts up in every direction. Unless the whole crop is removed the bed will supply itself year after year, and a space ten feet square will be enough for an ordinary family. We have had such a bed for thirty years, and it has been in all that time only once dug up and replanted, and this did not seem to be necessary.

OUTLET OF DRAINS.—A correspondent in the *American Farm Journal* says: If you have not yet thoroughly examined the outlet of the various artificial underdrains upon the farm, do so at the first leisure moment.

During the winter and spring, the inevitable action of frost and water displaces many stone and tile composing the drain, at or near the outlet, partially or entirely filling up the drain, and often the water breaks through the drain at some weak point, overflowing—it may be a valuable field of grain—and perhaps filling or stopping up the entire drain with mud and sand, as I have seen in many cases. A few moments work at the outlet of the drain oftentimes would save many days of weary toil. Underdrains are of too much value thus to be tampered with.

THE MARYLAND FARMER,

AT \$1.50 PER ANNUM,

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Special Contributors for 1871.

W. W. W. Bowie,
Barnes Compton,
Benjamin Hollowell,
Dr. E. J. Henkle,
John Merryman,
Luther Giddings,
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D. Lawrence,
John Lee Carroll,
John Carroll Walsh,
Daniel C. Bruce,
Augustus L. Taveau,

Richard Colvin,
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John Wilkinson,
John F. Wolfinger,
Dr. Montgo'ry Johns,
C. K. Thomas,
John B. Russell,
Department of Agriculture,
Prof. Wm. P. Tourey,
Robert Sinclair,
B. W. Jones, Va.
Geo. H. Mitnacht.

Maryland State Agricultural Society's Rooms.

The Maryland State Agricultural Society has recently fitted up new Rooms on the corner of Charles and Lexington Street, for the accommodation of the members and strangers visiting our city. Farmers of this and other States visiting Baltimore are cordially invited to call, will be kindly received by the general Secretary, D. C. Trimble, Esq., who is now fully inaugurated in his office, and energetically systemizing the affairs of the Association.

PIGS.—Parties wishing to purchase thoroughbred Berkshire or Chester White Pigs are directed to the advertisement of W. D. Smith, of Richland, Iowa, whose stock is said to be very fine.

THE MARYLAND AGRICULTURAL AND MECHANICAL ASSOCIATION.

A special meeting of the Executive Committee of the Maryland State Agricultural and Mechanical Association was held at their rooms, corner of Charles and Lexington streets, April 13th, Mr. Joseph H. Rieman acting president, and Messrs. Louis McLane, George S. Brown, James Howard McHenry, E. Whitman, Dr. De Courcy and R. F. Maynard being present.

The secretary, D. C. Trimble, was directed to obtain proposals for covering the floor of the grand stand at the fair grounds with canvass.

The president appointed the committee to prepare premium lists, rules and regulations for the next annual exhibition, as follows: Messrs. Geo. S. Brown, John Merryman, E. Whitman, Joseph L. Johnston, J. Howard McHenry and B. H. Waring.

Messrs. A. Bowie Davis and Joseph L. Johnston were elected to fill vacancies in the executive committee.

The resignation of Mr. Devries as president, was received and accepted, and, on motion of Mr. George S. Brown, Mr. Joseph H. Rieman was elected to the presidency of the association.

On motion of Mr. McHenry, the committee decided that the next annual meeting be held on the 3d, 4th, 5th and 6th of October next. The committee adjourned to meet the 2d Monday in May.

THE NATIONAL CO-OPERATIVE BUSINESS AGENCY CO.

It is rarely that we step aside to notice matters of public interest not strictly within the purview of the design of this Journal as an Agricultural Exponent. But in alluding to the "National Co-Operative Business Agency Co." of this city, we believe our readers will justify a deviation from this rule, the more especially as this Company, as a *Business Medium*, can be made a great convenience to all classes. For while its main object is to procure Patents, prosecute Claims against the Government, and adjust accounts between individuals; yet it does a large business in Real Estate, which makes it useful to the farmer. The merchant will find in it an efficient Attorney for any negotiations he may need. And persons having issues or difficulties with the Revenue or other departments of the Government, will find in this Company such an Attorney as they require. The officers of this Company with whom we have had many and pleasant business transactions, are too well known to need commendation at our hands. We do not propose to flatter them, our object being to inform those of our readers not familiar with it, of a Business Institution which will be found to be in this country, as it has been for a long period in Europe, a valuable and indispensable public convenience.

IMPORTANT ERRATUM.

In extracting from Parks' "Treatise on the Horse," Mr. Wilkinson's Essay on Stable Construction, published in the April number of the *Farmer*, we omitted to copy a notice accompanying the essay, in the treatise, "that a patent had been applied for, for improved Horse Stalls by Mr. W.," which has since been granted, the patent bearing date April 25th, 1871.

Those familiar with the subject say that by these stalls the comfort and cleanliness of the horse is greatly promoted, and that there is a great saving of the expense of both food and bedding, and greater durability, as compared with the old system of stable construction, yet the cost of construction and repair, under the patent, for a period of ten years is less than that of a respectable stable under the old system. Mr. W. may very justly be credited with being a true rural economist, for his invention is very unlike many others that are good, but are too expensive to admit of general introduction.

For particulars as to charge for rights, &c., see Mr. W.'s advertisement.

VIRGINIA AGRICULTURAL SOCIETY.—A meeting of the Executive Committee of the Virginia Agricultural Society was held Tuesday evening, April 12th, at the Exchange Hotel, at which various amendments to the premium list were considered. The committee also decided to increase their premiums to about \$7,500, which is \$1,000 more than the list of last year. The committee met again the next morning, and decided that the next Fair and Exhibition shall be held at the Society's Fair Grounds, Richmond, on Tuesday, the 31st of October next.

Seeds from the U. S. Agricultural Department.

We acknowledge the receipt of packages of Vegetable Seeds—23 varieties—from the United States Department of Agriculture, grown in France expressly for the Department. Also, 20 varieties of Flower Seeds, which have been selected in France for the Department. They are fine specimens, and we will give them a trial.

MOISTURE IN WOODS.—According to Dr. Harsig's experiments, woods (trees) generally contain, during the winter months, about an average of 50.7 per cent. of moisture; in March and April, about 46.9 per cent.; in May, June and July, about 48 per cent.; while up to the end of November the quantity of moisture increases but little. Air-dried wood (timber) contains from 20 to 25 per cent. of water, and never less than 10 per cent. Wood which, by being artificially dried, has been deprived of all moisture, is thereby entirely altered as regards its cohesive strength—it becomes brittle, loses its elasticity and flexibility.

ROTATION OF CROPS.

A correspondent in the *Kent News*, who reports the transactions of the Worton Agricultural Club of Kent County, Maryland, writes as follows:

The routine of business finished, an excellent essay on the best rotation of crops on a farm of one hundred acres of stiff land, and also on a farm of the same size of light or sandy land, was read by a member eminently qualified to instruct on farming. He thought the two kinds of soil required very different management, and advised to divide the farm with stiff land, reserving twenty-five acres for fruits, buildings, &c., into five fifteen acre fields, tilled two in wheat, two in grass, and one in corn yearly; claiming that by this system the land would be improved faster, more manure made, more stock could be kept, and more money realized than by any other. He recommended 15 acres in peaches, 4 in apples and for building purposes, and six acres in small fruits—Gooseberries, Currants, and early varieties of Blackberries and Raspberries. For the 100 acres of light or sandy land, he advised the three field system generally, reserving 34 acres for fruits, leaving 3 fields of 22 acres each for farming purposes—1st to corn, then wheat with a light dressing of some good fertilizer, then to pasture, fencing off 7 acres to mow, liming the clover sod every six years. The writer said he had seen lands improved rapidly by this system of cultivation, and he thought it would pay better than any other. The 34 acres for fruit to be divided thus: 22½ acres in peaches, 1½ acres for buildings, apple orchard and garden, and 10 acres for small fruits. The views of the writer seemed to meet the approbation of the Club, and I think are very good, although I should not approve of the ten acres in small fruits, believing that we cannot compete successfully with other localities.

RULES FOR PAINTING—1. Let the groundwork be carefully prepared and dry. 2. See that the colors are well ground and duly mixed. 3. Do not mix much more, nor any less paint than you think will be necessary for the present work. 4. Keep the paint well mixed before using. 5. See that the paint is neither too thick to work well, nor too thin to cover properly, and apply it evenly. 6. Do not apply a succeeding coat before the previous one is dry. 7. Do not use a lighter color over a darker. 8. Do not add driers to colors long before using. 9. Use just as little driers as will do the work. 10. Do not overcharge the brush with paint. 11. Begin with the highest part of your work and proceed downward.

COMPOSITOR.—The country press in need of a compositor are referred to the advertisement of our young friend, Geo. H. Ross. As a plain hand he can make himself useful.

For the Maryland Farmer.

IN THE NICK OF TIME.

Root Culture.

Farmers and planters, let me admonish you that it is not too late, although there is no time to lose, to plant sugar beets, parsnips and carrots, and that you can plant no crop that will give you a better return for your labor and fertilizers, than a due proportion, and a proper area of each of these root crops.

The beets and parsnips are more profitable to grow for feeding cattle or swine, than the carrot, but the latter will pay well for cultivation for feeding horses.

The cost of cultivation of the carrot, under the same circumstances, is often nearly, or quite double that of the same quantity of either of the other roots named, owing to the greater amount of hand labor required in their culture.

The soil for the beet or parsnip may be a heavy clay loam, or even a tenacious clay; but it is very essential that it should be very fertile, and as friable and cleanly as is practicable.

If the soil is barren and lumpy, it will prove to be a waste of seed and labor, to plant either of the kinds of roots that I have named.

If the land is of a degree of fertility that would produce eighty to one hundred bushels of corn per acre, and it is thoroughly tilled, which means plowed and subsoil plowed to the depth of twelve to fifteen inches, and cultivated and harrowed until it is in fine tilth, and drills are opened two feet six inches apart, and six to eight inches in depth, and the fertilizers to be applied are applied in the open drills, and a three-toothed cultivator run through the drills twice each way, until the manure and soil are well incorporated, and then thrown up into ridges, with their centers over the center of the drills, and the ridges flattened and smoothed with the roller, and the seed planted a proper depth in straight lines, and the cultivator run between the drills as soon as the rows can be seen, and they are weeded and thinned, and kept cleanly until they are matured, failure of a good crop will be the exception, and not the rule.

I would not advise the inexperienced in root culture to embark in it extensively at first, as they will be very likely not to provide a sufficient force, nor sufficient time to the preparation of the land, and to the culture of the crop, to ensure success; and in case of failure for want of any of the essentials named, they will be apt to do as many others have done, to denounce root culture as unprofitable.

No crop should be grown without keeping an accurate Dr. and Cr. with it; but this course in the culture of the root crops, especially by those who

have had no experience in it, is very important, that the producer may know how the net profit of these crops, compares with that of others.

Long, or unrotted farm yard manure is not suitable for the roots that I have named.

If a sufficiency of compost is at hand to be applied in the drills, it alone, if it is good, will produce a fair crop, but it will generally be found most profitable to apply less of the compost and add to that applied a liberal application of phosphatic and ammoniated fertilizers of commerce of reliable quality, (and there are such in the market,) than to depend on the domestic compost alone.

I would not recommend one inexperienced in root culture to attempt to produce more than an acre of each variety the first year. The data derived from the first experience will be a reliable guide as to the extent to which it will be profitable to go in future. It should be remembered that these crops, to be most profitable, must be for home consumption, and the best return from these may be expected when they are fed to milch cows, in profit, though they may be made profitable for dry cows, or fattening cattle—I refer to the beets and parsnips. If the city market is not too distant, the carrots may be sold for feeding city horses, for which purpose I have sold from one thousand to two thousand five hundred bushels per annum for five consecutive years, in Philadelphia markets, for an average price of forty-five cents per bushel.

The circus horses wintered in that city, consumed eighty to one hundred bushels per week, which I supplied.

I made the premium crop of Philadelphia county, which was 1017 bushels per acre, which cost to cultivate and market sixteen cents per bushel.

If grown on deep tilled, fertile soil, the length of the roots and the depth of culture will correspond, and the roots being long, they measure to good advantage; a heaped bushel of my carrots would not weigh to exceed forty-five pounds.

If gentlemen who keep horses in cities would feed each horse ten to fifteen pounds of carrots per diem, and would reduce the grain feed proportionately, they would find it very profitable.

They are both wholesome food, and alterative medicine for horses kept to dry food the year round. I have tested them thoroughly as food for cows giving milk, in comparison with both beets and parsnips, and I decided that either of the latter are more profitable.

The value of any of these roots is increased fully 25 per cent. by thoroughly steaming them; hence provision should be made for steaming, and a requisite number of animals for consuming the crop produced before green food is obtainable in the spring.

If the common turnip is produced, which may be made very profitable, they should be consumed first, then the beets, and the parsnips reserved until the last, and they will require no cellar room, neither will they, or need they be buried in pits, as they are improved by remaining in the ground until needed, or until they may be gathered and stored in an above ground feed room.

Roots for horned animals, or univants, should be free from soil; but for feeding horses, a moderate amount of clay on them is no disadvantage.

I hope that a goodly number of farmers who have not tested root culture will do so in 1871, and I am confident, if it is well conducted throughout, it will be found a profitable crop.

The ruta бага is, or may be made, quite as profitable as any of the varieties named, and I purpose to speak of its culture in due time.

The mangold wurtzel may also be planted soon, and be made profitable, as much so as those of which I have spoken.

I shall describe through the *Farmer* the most economical mode of harvesting and storing the root crops at the proper season. I am fully persuaded that farmers are most benefited by seasonable articles in their journals, pertaining to their operations. Now is the time, if you would produce roots this year. Respectfully yours,

J. WILKINSON,
Rural Architect, Baltimore, Md.

Wash for Inside and Outside Work.

In answer to a correspondent, the *Maine Farmer* gives the following directions for making a good whitewash for interior work, and also for outbuildings, fences, &c., if desired:

Of course every farmer knows how to slack lime for making the wash. Select a large, clear lump of lime, and in slacking it use only boiling water. Turn the water on slowly, and when fully slacked dissolve in water and a small quantity of sulphate of zinc and a little salt. This causes the wash to harden. The sulphate of zinc should be used in all wash intended for outside work, but may be omitted—if salt be used—in that for interior walls.

For colors use the following: If a pleasant cream color is desired add yellow ochre until the desired tint is obtained. For fawn color add four parts amber, one part Indian red, and one part lampblack. For gray or stone color, add four parts raw amber, and two parts lampblack. These tints will be found more durable than common whitewash, and fences, outbuildings, &c., look very well covered with them.

Tobacco stems put in hens nests are good to keep them free from vermin.

For the Maryland Farmer.

FORCING MUSHROOMS.---No. 2.

SPAWNING THE BEDS.

When the bed has attained the heat required, make holes with a dibble three inches in diameter and nine inches asunder through the compost in every part of the bed. In three or four days after the holes have been made, by observing the thermometer, it will be found that the desired degree of heat has been obtained, and the inside of the holes will also have become dry; the beds are then in a good state for spawning, which should be done while the heat is on the decline. If this operation be deferred until the heat be quite exhausted, the crop will be late and less plentiful. Fill every hole with spawn, which should be well beaten into them, and then make the surface of the bed solid and level. It is of no consequence whether the spawn put into the holes be in one lump or in several pieces, it is only necessary that the holes should be well filled. About two weeks after the spawn has been introduced examine the holes, and if the spawn has suffered any damage from over heat or too much moisture in the bed, introduce fresh spawn in the same way as before.

On the contrary, if the spawn be found good and vegetating freely into the compost, such beds, if required for immediate production, may be covered with mould, and the beds intended for succession should remain unearthened in summer three or four weeks before you work them to produce, and in winter five or six weeks.

If the spawn be introduced in hot weather, air must be admitted as freely as possible into the house until the spawn has spread itself through the bed, for if the place be kept too close, the bed will become soft and spongy, and then the crop will neither be abundant nor of good quality. Such beds as are intended to be put into work must be covered with a coat of rich maiden earth, in which its turf is well reduced; then spread it regularly over the surface of the bed two inches thick, and beat it as solid and level as possible. The earth used should neither be too wet nor too dry, but so as to become compact and exhibit when beaten a smooth face. If too moist it will chill the bed and injure the spawn; on the contrary, if too dry it will remain loose, and in a state by no means favorable to the growth of the mushroom; but when solid it produces not only finer mushrooms, but in greater quantities, as the earth from soils of lighter texture invariably grows them weaker and of inferior quality, and such beds cease bearing much earlier.

W. LINEKER.

Never cut a fowl's wing, to prevent its flying. Pull out the flight feathers of one wing.

CULTURE OF ONIONS.

What kind of ground is best for onions? How should they be planted? What is the best variety? How many bushels may be raised per acre?

Onions may be grown on any good friable soil, free from stones, and put in good order by previous working. It is better not to attempt raising onions on stony ground, as the stones will increase the labor of hoeing, and cost more than to pay a high rent for good land. It should be well manured, as this crop succeeds best on an enriched soil. The manure and the soil should both be free from the seeds of weeds, as pulling weeds by hand is costly work. If the previous crop has been weedsy, it should be thoroughly harrowed many times at intervals, to make a clean soil. Having brought it into a state of thorough pulverization, and rolled the surface, proceed to plant the seed. This should be done as early in the spring as practicable, as early sown seed always gives the largest and best crops. A hand-marker should be provided, with teeth about 10 or 12 inches apart. The first drills are made straight by running this marker by a stretched cord; the first tooth run in the last mark will make the others straight. The seed are then sown conveniently, rapidly and accurately, by means of a sowing machine or drill. According to the rule that seeds should not be planted more than four or five times as deep as the diameter of the seed, onion seed should not be covered much over half an inch deep. The soil should be either rolled or otherwise pressed down over the seed, and if inclining to be heavy, they will come up better if a sprinkling of fine mould is strewn along the drill. This may seem like a good deal of labor, but it is much cheaper to spend a day or two thus, than to lose half a crop from gaps and irregularities, after working the whole ground through the season the same as for an entire crop. It is important also to have good fresh seed, from a reliable vender; they may be proved by trying a portion between the folds of cotton kept wet in a warm room for two or three days, when all good seed will have sprouted. If the seeds are placed an inch or an inch and a half apart in the drill, they will come up so as to be thinned out evenly. At first the thinning may be two inches apart, so that every alternate bulb may be taken up for use when half grown if desired, leaving the final plants about four inches apart. This distance is for the best soil and best management; if not quite so good, three inches distance will do, or even less.

As soon as the young plants show where the rows are, the hoeing should commence. This work should not be a day too late. It will cost ten times as much labor to hoe after the weeds are some inches high as when just peeping at the surface, and be a

great deal worse for the crop. It would therefore be better to hire a man at double wages, than to delay the work.

In the vicinity of cities, large crops are raised from "sets," or small onions grown from seed the previous year. Poor ground is selected for these sets, but it must be finely pulverized. The object is to have them grow small, hard and compact, and not rank and succulent. If no larger than peas, all the better. These are taken up towards the latter part of summer, well dried, and placed a few inches deep on a floor, with half a foot of straw over them for winter. They are set out in drills early in spring, on ground prepared like that for seed, but rather richer, or with more fine clean manure. They may be about three inches apart in the drills, should be set rather shallow, with the soil pressed closely to keep them right side up, and the whole rolled. Take the same care as with the crop from seed, to keep the ground perfectly clean. These are much earlier, or fit to harvest at midsummer; and other garden crops are sown after them.

It is usual to skip every seventh drill, to be left as an alley; and where the crop is planted of "sets," the alley of every fourth row is often planted with cabbages, which take the place of the onions when they are gathered.

Onions may be grown for many successive years on the same ground, if well manured each year.

The best varieties are the following: Early Dutch or Strasburg, called also, the Yellow onion, which is very hardy, keeps well, and is much employed for "sets." The Silver-Skinned or White onion, is less hardy, but is more delicate, and used for pickling. The Red Dutch or Large Red Wethersfield, is extensively grown in New England for a general late crop, being a good keeper. Potato onions are a very convenient crop for family use, the bulbs of which are planted early in spring, in rows about a foot apart, and four inches in the row, and treated as other onions. They multiply by producing young bulbs from the parent root. The Top onion is produced in a similar way at the top of the stalk, and these bulbs planted in the same way, but when grown they are not good keepers. Three hundred bushels per acre is a fair crop.—*Country Gentleman.*

BLACKING FOR HARNESS—At a recent meeting of the Worton Farmers' Club of Kent Co., Md., a member submitted the following receipt: To 1 gallon tepid water add 2 ounces extract of Logwood, 24 grains Bicromate of Potash and 12 grains Prussiate of Potash, the whole costing but a few cents. From the acknowledged ability and scientific attainments of the member, the recipe is entitled to a trial, and this member stated that Ivory black and vinegar was an excellent preparation for harness.

Horticultural.

CULTIVATING FRUIT-TREES.

My object is not to enter upon any general system of fruit-culture, involving location, nature and cultivation of soil, or the selection of varieties and form of trees in nursery. But I have a few thoughts to submit in regard to PRUNING.

By careful observation upon my own former practices and that of others, I am fully satisfied that no pruning at all were infinitely better than the present general practice. The practice of indiscriminate lopping off of limbs, large and small, is the cause of disease and a weakening of the constitution of the tree, which in numberless cases leads to premature death. I long since became suspicious of the practice, and abandoned it altogether, as I found in nine cases out of every ten, where a branch of considerable size had been taken off it would leave a *rotten spot* in the tree. In a great many varieties of the apple tree where any incision is made in the tree, there is a liability to decay and rot. The tree may, and perhaps in most cases will heal over this, but a diseased spot is left in the tree, and hence to that extent is left in an unhealthy state. And the more these spots are multiplied the more is the tree weakened and diseased. And it seems to me that healing over these rotten spots in a fruit tree is much the same as healing over an old sore in a person or animal without first effectually removing the virus.

With a view of information founded on facts in this particular, I have examined a great many orchards, where severe trimming had been practiced, and uniformly found that where branches had been cut off, the wood had turned black upon the surface, which is a sure sign of decay and disease beneath.

A few days ago while engaged in trimming up my apple trees by removing *only such branches as were chafing each other*, a gentleman called on me who had set an orchard the same spring that I set mine. I asked him if his orchard could show larger and thrifty trees than mine. His reply was that his trees were either dead or in an unhealthy state; that by the advice of others he had trimmed severely, and the result upon his trees was decay and death. And such is the uniform experience where such practices have been followed. My practice is never to cut off limbs except *where they cross each other* or are destined to do so shortly. And this should be done while the member is but a twig. Were this practice rigidly adhered to there would be fewer such diseased trees, or in other words, I believe this the only way a perfectly healthy and hardy tree can be grown in our soil and climate.—JOSEPH HARRIS, in *Germanstown Telegraph*.

THE BEST STRAWBERRIES.

The best strawberries, as they now stand in public opinion, are mentioned by P. T. Quinn in the *Tri-bune*, as follows:

The varieties most in demand hold the same relative position they did last year. Wilson's Albany Seedling is still at the head of the list as the most popular market variety, and adapted to a wider range of country than any other sort now cultivated. On rich, heavy ground Triomphe de Gand and Jucunda do well, and are profitable kinds to grow. The Charles Downing, after another year's trial, gives promise of being a strong growing plant, with a good foliage, and productive. It is likely to become a favorite for the market as well as home consumption. Boyden's No. 30 (or Seth Boyden) is one of the most vigorous on the list. The leaves are nearly twice the size of the Wilson, and it stands the summer very well. The berries are very large and of good quality. When grown near market they will prove profitable. It does not bear transportation long distances as well as some other varieties. Green Prolific—this variety, as the name indicates, is one of the most prolific in fruit, and when grown near market is very profitable. The berries are not very firm, and are somewhat acid. Among the other leading varieties are the Agriculturist, Barnes' Seedling, and Downer's Prolific.

LIST OF PEACHES.

A Maryland correspondent wishes a good selection of peaches for a succession. He does not restrict us to any number of varieties. The following list of six sorts is given in Fulton's excellent little work on Peach Culture:

White.	Yellow.
Hale's Early.	Crawford's Early.
Old Mixon Free.	Reeve's Favorite.
Stump the World.	Crawford's Late.

For a list of twelve, he adds to the list of white sorts, Serrate Early York, Large Early York, Moore's Favorite, Red Rareri, Ward's Late, and Yellow Rareri to the yellow ones.

There are some others which are nearly, or quite as valuable, and which some would probably prefer in certain cases—such as Morris White, Nivette, Troth's Early, Grosse Mignonne, &c. These include nearly all the sorts which have a wide reputation in the Middle States, and most of them succeed well at the North.—*Country Gentleman*.

CROPS IN THE SOUTH.—Advises from Virginia, the Carolinas, Tennessee, Louisiana, and elsewhere South, agree in saying that the prospect for large crops of fruits and cereals is first class, and that the present season, if successful in this particular, will very nearly sweep away all the general pecuniary losses by the war.

ALSIKE CLOVER.*(Trifolium Hybridum—Perennial.)*

Having had many inquiries from farmers and others in regard to the honey and butter producing qualities of this vegetable, I will give through the columns of the *Western Rural* my experience of three years, in regard to the great value of this plant, to all farmers whose soils are adapted to its full development. My own observations, and statements from other reliable sources, go far to prove its value.

Alsike clover is not adapted to sandy, or sandy and gravelly soils, with porous or leach subsoils. With good clay subsoil it succeeds better. But it luxuriates in rich, thoroughly worked clay loam soils, rich bottom lands, prairie, and all marsh or swamp lands where they can be plowed so as to kill the wild grasses. Flowering through winter and spring does not injure it. Here it will accept the situation and display its magnificent products on the scale of five tons of finely cured hay to the acre. But mark! deeply stirred, rich, moist land, underdrained or subsoiled, or both, will only produce this burden. The chemical action of plaster is strikingly manifest on this plant. Blossoms are developed more or less when the plant is from eight to ten inches in height; and when three and a half feet, it is a perfect sea of bloom.

Millions of dollars may be added to the wealth of this country, especially the West, in a few years by sowing one acre this year, and gradually extending its area. For soiling cows, horses, etc., when pastures fail, it is equal or superior to green corn, and attended with much less trouble in the gathering and feeding. During the past year I cut three crops from the same ground, standing at the first cutting from two to three feet in height; last cutting, one foot in height, as thick as it could stand, small, delicate stalks, with numerous branches, and perfectly glorified with a mass of small peach-blow colored blossoms, filling the air with the most delightful and exhilarating perfume, and swarming with bees every fair day. The root is like red clover, but longer and more fibrous. The haulm is small, tender, and nutritious; when well cured as it should be, in full bloom, every spear will be eaten with avidity by all kinds of stock.

There is no plant known, that will produce so much good honey, butter, cheese, beef, mutton, wool, and hay per acre, as this plant, not even excepting corn. In using the latter for soiling, you get only the haulm, while in the Alsike you get the haulm and a large yield of honey; and if the ground is prepared as well by deep tith, manure, and plaster, or other fertilizers, as for corn, you will get as much by weight of the haulm.

It bears feeding to an enormous degree. I think its fattening qualities superior to the famous blue-grass of Kentucky; and as it will flourish well on such soils as I have designated, from the Gulf to Lake Superior, farmers can easily divine its immense advantage to their pockets. Beside, the expense of "seeding down" every three or four years is saved. It is a great renovator and disintegrator of hard, tenacious soils. Its long tap roots and numerous fibers reach deep for its pubulum, and thus loosen soil and endure drought well. Some think there are two kinds of this clover; I think not. The difference in growth, etc., in diverse localities, is owing to the character of the soil. I never saw any but the large kind on land once covered with beech, maple, oak, bass, lever wood, etc., and I never saw any but the small kind on light, sandy, and gravelly soil. Also, on pebbly soils with calcarious debris, and good tenacious subsoil, it succeeds well. It is no humbug. Farmers, try it and report results.

THE ALMOND.

There is no apparent reason why the culture of the almond should not be pursued to a profitable extent in the warm and favorable climate of some of the Southern States. It so strongly resembles the peach tree, that it is difficult to distinguish is by the leaves and wood only. The chief distinction between the two in our gardens lies in the fruit, which, in the almond, consists of little more than a stone covered with a thick, dry, woolly skin, while the peach has in addition a rich and luscious flesh.

The almond thrives best in a warm, dry soil, and its general cultivation in this country is precisely like that of the peach.

The Common Almond, the Hard Shell, Sweet Almond, and the Bitter Almond, are hardy in the latitude of New York, and bear tolerable crops without care. The Soft Shell or Ladies' Almond is the finest of all the varieties; it is the very variety common in the shops of the confectioners. These can be obtained of any of the nurseries.

LIME FOR YOUR FRUIT TREES.—It is a good plan for all fruit growers to apply lime freely in their orchards every two or three years. A half bushel to each tree, or 100 bushels broadcast, per acre, will suffice. Upon lands particularly tenacious, we have known as high as four hundred bushels per acre; but this was used for a truck garden. Light loamy lands will be best benefited by the lime, and shell lime is better for fruit trees than the usual stone lime.—*Horticulturist*.

In breeding "Games" don't breed "to feather," and expect superior endurance and other fighting qualities,

Grape Culture.

GRAPE-GROWING IN VIRGINIA.

BY H. R. ROBEY, FREDERICKSBURG, VIRGINIA.

Having read so many communications in your valuable *Journal of Horticulture* upon the subject of grape-growing, and making of wine, coming from various parts of the country, many of the correspondents claiming to be in the most favorable latitude, and having the best soil, I have concluded to write out my experience and observations in Eastern Virginia.

We claim to have the soil and climate to grow the most vigorous vines and superior grapes. We have no large bearing vineyards now; nearly all were destroyed during the war. Every thing here is now in its infancy. And good corn land here will produce good grapes; but the best is a chocolate or brown loam; and when fresh from the woods, all the better.

In January, 1868, I cleared up four acres of land from the woods, removed nearly all the stumps, and did not allow any of the trash or leaves to be burnt; plowed the land ten inches deep, and planted early potatoes in rows four feet apart.

In April, I planted Concord and Catawba grapes (in yearling plants) in every alternate row, and eight feet in the step, using no manure. The potatoes were taken up in July. The vines made a growth of about six feet, and some laterals. Last winter I cut them down to two feet, and left one eye to each lateral. This spring they started vigorously. I allowed all the branches to grow; and they have made from thirty to sixty feet of new wood, notwithstanding we have had the greatest drought ever known. The vines have now matured from ten to forty-five bunches of grapes, ready to be cut, and made into wine.

My trellis is made of heavy white oak stakes, six feet and a half long, sharpened, and driven eighteen inches into the ground; making the trellis five feet high. For slats, I use cedar poles, halved, and nailed to the post. The first I put two feet from the ground, one at the top, and one midway. I prefer a low trellis, as the crop is more easily gathered. This trellis presents a very rough appearance; but it is strong. It requires eight hundred stakes to the acre. I get them from my own woods; and the cost for getting the stakes and slats, and putting them up, is twelve dollars for an acre. I know, when this communication is read by the knowing ones and the scientific, they will laugh, and say he is a greenhorn for letting his vines bear so young, and allow so much wood to grow. In reply, I will say, I have been thirty years growing grapes, and have tried every way laid down in the books; close pruning three years before a grape was allowed on the vine, and then only a few bunches. Close pruning I think a great injury to the vine; the growth will be too great, and the wood soft. Visitors from other States say I am wrong in allowing my vines to bear so young, and predict they will soon be exhausted. I tell them, thirty years' practice and experimenting enables me to know what I am about. A gentleman from New York has recently purchased land here, and will plant a hundred acres in grapes. He said he would trench his land two feet; but when he saw my vines, and found that the land

had only been plowed ten inches, he said he would abandon the trenching; and he had had long experience in grape-growing.

The Catawba and Concord grape will, in this chocolate loam, bear from five to eight good crops of grapes free from rot. When the old vines begin to fail by the grapes rotting, I turn out a strong cane, starting near the ground; in the spring, layer this cane half way between the vines, in a well prepared bed; this layer will, in two years, bear a good crop of grapes. The old vines, after two years more of bearing, may be taken up. In this way you can keep up a good young vineyard, producing a full crop free from rot. The culture of the grape, and manufacture of wine, in the Southern States, is an interest worthy of much more attention than is supposed. The profits are very large for the labor bestowed; and there is no danger of over-stocking the market. Our climate is the grape climate; our soil, the grape soil. The regular heat of our summers develops all the good qualities of the grape in great perfection. This fall, my vines will have the second trimming. If the cane is very strong, and the laterals good, I shall cut off all the branches and suckers, top the cane to six feet, and cut the lateral branches, leaving from two to five eyes. When the cane is not so strong, and has but few side-branches, I leave two; train the one that has the most spurs or bearing wood perpendicular, and the other horizontal—the latter more to make bearing-wood for another year. I don't like to use manure as long as the vine can do without it. Animal manure should never be used after the vines begin to bear; it causes the vines to grow too rank, the wood is not so firm, and mildew and rot will follow. Ashes and bone-dust are the best manures. The fertility of the soil may be kept up for many years by forest leaves, earth from the woods or ditch banks, and any vegetable matter you may gather up. This may be spread upon the land, and lime sown upon the top.

Now to the question: What varieties of grapes are most profitable? I answer, the much abused Catawba and the Concord. I have grown the Catawba for thirty years; and it has always given a good crop of sound grapes on young vines for, say, eight years. After that age, a very wet season will produce considerable rot. It makes a better wine than any other variety I have tried, and the wine will sell for more money. The Concord is a more vigorous grower, and will bear earlier, and a larger crop of grapes; but the wine sells for a less price. The Clinton is a very promising grape; it is much sweeter here than in the Northern States. The Hartford Prolific bears large crops; but one half of the bunch ripens and drops before the other half matures, and we look upon it as of no value. The Ives is a good grower and bearer, free from rot; ripens here with the Concord, but is not so good. Roger's 9, 15 and 19 are good grapes, but no better than the Catawba, and rot on young vines; No. 4 is a good bearer, and of fine quality: No. 1 grows and fruits well; a fine table grape. Union Village rots badly.—Delaware is a very poor grower, except upon a deep sandy soil: on any other soil it mildews badly, and the grapes will not ripen. Iona will not grow here, except upon sandy soil: the grape is very much like the Catawba, but not so rich. Cuyahoga grows and fruits well, and is very promising.

Alvey is one of the most promising grapes I have ever grown; vine very vigorous; bears enormous crops; perfectly free from rot; fully equal to the

Delaware in quality. The bunches are always full and healthy. It ripens here the first of September. It will grow well in any soil; but, like others, it has its preference. Why this grape has been so little noticed, seems strange. It is surpassed by none, and equalled by few. It has all the good qualities to recommend it, except size. The berries are of full medium size; bunches good size, and very compact; color black. We have several characters of soil here,—the gray loam, sandy soil, white or leachy, and the brown or chocolate loam; the latter is the best for any crop, but especially for grapes. It is an easy soil to cultivate, and the vines grown in it are much more vigorous; and as I stated in the first part of this communication, if fresh from the woods, it will be worth fifty per cent. more for a vineyard. Our poor, worn-out lands will require a good deal of manure to give the vines a good start; but we have a great deal of good land that will grow strong vines without stimulants.

In conclusion, I would say, plow the land not over ten inches, plant shallow, cultivate shallow, and you will have vigorous and healthy vines and fruit. Sod-land well turned and limed is the next best to new land. Vegetable matter is a very important element for the vigorous and healthy growth of the vine. Don't use animal manures if you can get ashes or bone-dust.

GROWTH OF CEREALS.

Of late years, the laws controlling the development of cereals from germination to maturity, have been more carefully studied than in former years, and the results of these researches are not only interesting, but valuable in the highest degree to the practical farmer, as they will enable him to improve in his modes of culture, by avoiding errors that seriously interfere with the growth and development of plants.

Among the most interesting of the many papers that have been prepared on this subject, is one read at a recent meeting of the British Association, by Mr. F. F. Hallet, in which were detailed the results of a series of experiments conducted by the author for the purpose of establishing certain important facts connected with the growth of cereals. Starting upon the conviction that grain, and especially wheat, is injured by planting too closely, he found a wheat plant would increase above the ground in proportion as its roots had room to develop, and that the roots might be hindered by being in contact with the roots of another plant. To enforce this argument against close planting, we may add Liebig's remark, that "the greatest enemy to a wheat plant is another wheat plant, not only because the natural development of the roots are retarded, but also for the obvious reason that both require the same food; small head and kernels, and weak, flabby straw, are the natural consequences of this competition." J. J. Mechi, the widely known farmer and writer of England, says the close sowing of grain is a national calamity.

Mr. Hallet continued his experiments, planting one kernel of wheat only, and by applying the principles he had previously deducted to improving the method of cultivation, he succeeded in raising wheat, whose ears contained 123 grains. In the course of these investigations, he made other discoveries with regard to the growth of cereals, which may be summed up as follows:

1. Every fully developed plant, whether of wheat, oats or barley, presents one ear superior in productive power to any of the rest on that plant.
2. Every such plant contains one grain, which upon trial, proves more productive than any other.
3. The best grain in a given plant is found in its best ear.
4. The superior vigor of this grain is transmissible in different degrees to its progeny.
5. By repeated careful selection the superiority is accumulated.
6. The improvement which is first raised gradually, after a series of years, is diminished in amount, and eventually so far arrested, that practically speaking, a limit to improvement in the desired quality is reached.
7. By still continuing to select, the improvement is maintained, and practically a fixed type is the result.

The progress now being made in agriculture is the joint work of theory and practice, and the developments of late years concerning the structure and physiology of plants, are of incalculable benefit. Chemistry has now demonstrated the conditions absolutely demanded by vegetation for its growth, and points out to the inquiring mind the sources whence the requisite materials can be procured, and the process by which the mechanical action can be best accomplished. Every really successful farmer must, to some extent, be a scientific man, because in developing the capacities of his land to the utmost, in maintaining and increasing its fertility, and overcoming the difficulties that baffle others, he must apply established principles and the knowledge of facts that constitute important elements of success.—*Farmer's Home Journal*.

Acknowledgment.—We have received from C. Lewis Dunlap, the famous grocer, No. 13 W. Baltimore Street, samples of Kitchen Crystal Soap, for household cleaning, &c. Also, packages of the great East India delicacy, "Manioca"—for puddings, blanc mange and jelly. Also, Dooley's Superior Chemical-yeast Baking Powders, for making all kinds of biscuit, rolls, griddle-cakes, pot-pies, pastry, &c. The "Matron" has given in a favorable report on all these articles, and if you want either of these articles, or anything in the line of choice groceries, &c., call on friend Dunlap, as we guarantee the most fastidious taste will be gratified.

Meal worms are excellent for chicks, but half a dozen daily, is sufficient for them until they are four weeks old.

The Florist.

FLORICULTURE---FOR MAY.

PREPARED BY JOHN FEAST, Florist, Baltimore.

As the season advances, and the growth of plants are accelerated by heat and moisture, they will require more room in the house. This can easily be overcome by setting some of the most hardy ones out of doors as the weather gets moderate; many plants will be better out of doors. Head such as require topping, if you want fine specimen plants; if cut now they will have time before the autumn to make fine heads, giving them also room out of doors. But be careful in watering too much until they begin to grow, as many are lost in this way for want of proper attention. A few nice, bushy plants are far more preferable to late, lean plants, giving but little bloom. Whole collections are deprived of their beauty by being too sparing with the knife; the more compact a plant is grown, the finer it will flower and enhance its value.

All young bedding out stock for planting out should be ready to put out at any time; give plenty of air to make them hardy before exposure, as they will scarcely be checked by transplanting, which will require frequent watering to have success.

Pelargoniums now coming in bloom, will soon make a show with their gorgeous flowers of various shades and colors. The constant improvement of late makes them very attractive, and enriches those collections containing them. They make a fine show planted out, and continue in bloom much longer than when kept in pots.

Caladiums will need repotting and bringing forward. Give them plenty of pot room, with plenty of drainage, and keep in a warm, moist atmosphere, shaded partially from the sun. The foliage will be much finer than if fully exposed to the sun. Be careful not to give them too much water at the first, lest the roots should decay, which are very easily destroyed.

Chrysanthemums.--Repot now and separate the roots, or strike from cuttings, and keep in a cold frame in a shady place, until thoroughly rooted; such struck will make fine plants by the fall.

Amrylluses and *Lillies* will now be blooming. Give sufficient water, and have the flower stems carefully protected. Hybridize the fine kinds if you want to improve the varieties. Plants from seed will flower in four or five years, if cultivated properly; they require a soil two-thirds loam and one-third manure, leaf mold and sand mixed. Give plenty of pot room and good drainage; if the plants make fine foliage, a fine bloom may be expected.

Chinese Primroses may be sparingly watered after they are done flowering, and as the seed becomes ripe should be sown to have fine plants for the fall. They require but little water through the summer if kept in a proper situation, which should be a shady place.

Auriculas one of our most beautiful of all the primrose family, will now be flowering. Give plenty of water when in flower, and plenty of air in frames; also keep clean from the fly, which in-

ests the leaves, and which are generally found underneath.

Cactuses.--Those of the summer flowering ones will be making buds; bring them near the glass and tie up the shoots so that the bloom will be seen, and clear off the foliage. By a little care they may be made to show and expand the flowering much finer than when crowded together, which happens when no attention is paid to them while in flower.

The tender *Stove plants* will require attention and repotting, such as need it. Many may be headed down, and the old wood thinned out; and the different ones that require trellises, as *Stephanotus*, *Passion flowers*, and such, train neatly and tie up; examine thoroughly, as they are much troubled with the mealy bug; which are easily destroyed by turning on them a force of water or syringing; this is much better than running the risk of injuring the plants by the dangerous mixtures now in use, which, if not properly used, injure many plants.

Roses that have been raised from cuttings may be planted out in the open ground, and such as are intended to be kept in pots, give larger pots, and set all of them out of doors in a proper place.

Carnations and *Dianthus* of all kinds plant out so they can be propagated by layers, which may be done next month if more stock is wanted.

The garden will now occupy much time in the planting out of all summer flowery plants, and the sowing of seeds; also the different bulbous rooted plants, as *Dahlias*, *Tuberroses*, *Ferrarias* and *Lillies*. Have the ground prepared properly, as it is time that all should be in the ground by the middle of this month. *Tulips*, *Hyacinths*, and those done flowering, take up when the foliage is dead, put the bulbs in a dry place, in sand, till it is time to plant in the fall.

Oleanders, *Lawrestines*, and many other flowery plants will be benefited by planting out in border; they are easily lifted in the fall, and will produce more flowers, treated in this manner, besides giving them a healthy appearance.

The Technologist.--The last number of this Journal--that for March--is one of unusual excellence. In addition to a very large number of well engraved and well printed illustrations interspersed amongst the reading matter, there are two full-page engravings, beautifully executed and printed on tinted paper--one being of a new style of furnace for smelting lead, while the other is descriptive of a new invention that cannot fail to interest every household, builder and architect in the country--Wightman's Automatic House-Tank Pump, by means of which the waste heat from every kitchen-range can be used for raising water to the top of the dwelling, &c. The subscription price is only \$1.50 a year, and it will pay one to send to the Industrial Publication Company 176 Broadway, N. Y., for a specimen copy, which may be obtained free.

NEW ADVERTISEMENTS.

Griffing & Co.....	Guano, Bones, &c.
Kemp & Kerr.....	Choptank Nurseries.
Walter D. Smith.....	Berkshire and Chester Pigs.
J. W. & M. Irwin.....	Chester Pigs and Poultry.
Geo. B. Hickman.....	Chester White Pigs.
Colwells, Shaw & Willard	
Man'g Co.....	Tin-Lined Lead Pipe.
B. Sweet & Co.....	\$30 Salary per Week.
Collins & Co.....	Cast Steel Flows
E. D. & W. A. French.....	Glass Cutter.
E. Whitman & Sons.....	Horse Powers, Threshers,
S. Sutton.....	Grain Fans, &c.
	Heifers and Calves for sale.

MARYLAND AGRICULTURAL COLLEGE.

ANNUAL MEETING OF STOCKHOLDERS.

In compliance to the terms of the charter, an annual meeting of the stockholders of the Maryland Agricultural College, was held April 12th, at the office of John Merryman & Co., No. 69 West Fayette Street, J. H. McHenry, in the chair, and E. M. Mitchell filling the position of Secretary.

On motion, Colonel Herbert and Prof. N. B. Worthington were appointed a committee to examine the proxies, in order to ascertain the number of shares represented. The committee reported that 6,582 shares were represented.

A motion was made that a committee be appointed to nominate a ticket, the gentlemen so named to serve as Trustees of the College for one year. The motion was lost.

Hon. Allen Bowie Davis, President of the Trustees, presented the following report, which was read and accepted:

In submitting the report of the President of the Faculty of the Maryland Agricultural College, I beg leave to congratulate the stockholders upon its improved and brightening condition.

When Dr. Register was elected to its Presidency, less than two years ago, he found the College encumbered with debt, the building out of repair, the farm, for want of fencing, almost out in common, confidence in its success much impaired, and with not more than a dozen full paying students.

The number of students is now one hundred and thirty, the College building repaired, out houses built and in progress, the farm fenced, public confidence restored, and the large and long standing debt entirely extinguished. A result so auspicious in so brief a space of time justifies the confident expectation that with proper support and encouragement the Maryland Agricultural College will yet prove a success, and realize the sanguine expectations of its founders and promoters.

The Trustees are not unmindful of the responsibility to this end, with which they are clothed by the terms of this charter.

In addition to the gratifying financial exhibit made by the President of the Faculty, the undersigned will report that he has been charged by the Trustees with the duty of obtaining from the heirs of the late Mr. Calvert (from whom the farm was purchased and upon which the College is located,) of obtaining the right of way for a good road and an imposing avenue, from the railroad station to the College. Also, with the settlement of a claim left open by the sudden and lamented death of Mr. Calvert, both of which he is happy to believe are in course of satisfactory adjustment.

He is also charged with the prosecution of a claim for about twelve hundred dollars against the General Government for damages done to the College building, fencing and timber by the United States troops during the war. There is also a claim against the State of Maryland for about ten thousand dollars wrongly withheld from the fund arising from the sale of United States scrip, donated to the several States who might establish colleges for mechanical and agricultural instruction according to the terms of the act Congress, approved 2d July, 1862. By this act it was made the duty of the several States accepting it to dispose of the land scrip, and invest the proceeds in a fund for the object aforesaid, "clear and free from all cost and taxes, and from any loss or diminution whatever." The act of the Legislature of Maryland of 1864 so accepted this trust.

The act of 1865, ch. 178, provides that the annual income and interest arising from this investment shall be regularly paid to the Maryland Agricultural College. Strangely, in forgetfulness of the act of Congress and of the solemn contract made with the United States by its acceptance, by the 7th section of the act of 1866 ten per cent. of this fund (about \$10,000) is retained by the State and appropriated to its own use. At the last session of the General Assembly of the State the Senate passed a bill repealing this portion of the law of 1866, which bill only failed in the House of Delegates at its closing hours for want of time. It is not doubted that among the first acts of the next Legislature will be the repeal of the 7th section of the act of 1866, and thereby restore this sum to the trust fund, from which it was erroneously diverted. Justice to the College, good faith to the United States, and the higher considerations of fidelity to a sacred trust, alike demand this prompt repeal.

These several sums, when obtained and added to the surplus earnings of the College, as shown in the Register's reports, will enable the trustees to erect the mechanical

shops and other buildings and improvements originally designed and contemplated, and thus long delayed by the hitherto financial embarrassment of the College, and without which the original designs and plans of mechanical and agricultural instruction cannot be fully developed.

A. B. Davis, President.

REPORT OF PRESIDENT REGISTER.

The following report was also read and adopted:

MARYLAND AGRICULTURAL COLLEGE, }
April 7th, 1871. }

Hon. A. B. Davis, President Board of Trustees Maryland Agricultural College:

Sir—The Institution over which I have the honor to preside, I am happy to report, is prospering in all its interests and affairs. We have for the current session one hundred and thirty-five names on the student's roll. These young gentlemen—the commonwealth—for the most part are orderly and well behaved, and apply themselves, as a general thing, diligently to their studies, and many of them give promise of usefulness to the State and will prove themselves a credit to the College and worthy recipients of the generous aid of the Legislature.

The College is now out of debt and promptly meets all of its current expenses. There is due the College from the State for the current session (including one half the annual proceeds of the United States "Land Scrip" donation), \$9,000, and in hand and due from students \$3,350, making in all \$12,350 as resources from which to meet liabilities to close of College year ending June 30.

Numerous and much needed improvements have been undertaken, such as outbuildings, fencing, &c., all of which have been paid for as far as completed, in these improvements are included 1,000 panel of good post and rail fence, by which a large part of the farm, heretofore unavailable for pasturage and convenient cultivation, has been divided into five fields, with running water in each. Notwithstanding these extra expenses for improvements, it is confidently expected that we shall have not less than \$3,000 at the close of the session as the net gain of the year's work.

The State law, requiring the education of sixty students free of expense for tuition and use of books, has been conformed to, and exceeded by some twenty additional State students, thus extending the benefits of the College widely over the State.

The stock of furniture for lecture rooms, bed rooms, text books, &c., has greatly increased during the year, with many other valuable additions to the personal property of the college.

The insurance on the entire property, real and personal, has been increased from \$35,000 to \$57,000. These policies are from good and well known companies. There is included in this statement an insurance of \$10,000 on personal property, such as bedding, furniture, libraries, table ware, stores, &c., &c.

In conclusion, I beg leave to say that the success of the College for the current year gives confidence and hope, and justifies the belief that the Maryland Agricultural College will realize the fondly cherished hopes of founders and friends, and become a seat of learning second to none in the country.

I have the honor to be, very respectfully, your obedient servant,
SAM'L REGISTER, President.

ELECTION OF TRUSTEES.

After the above reports had been disposed of an election for Trustees was held, and the following gentlemen elected: Hon. E. J. Henkle, Hon. James T. Earle, Hon. A. B. Davis, Allen P. Dodge, H. D. Farnandis, J. Howard McHenry and Edward Lloyd, Esqs. The Trustees will assemble some time in May next and elect their President.

MARYLAND AGRICULTURAL COLLEGE.—We have received the Annual Catalogue of the Maryland Agricultural College, session 1870 and 1871. It embraces the list of Trustees, Visitors, Faculty, names of Students, Terms, Course of Studies, &c. The College is now in a highly flourishing condition, under the management of its able President.

EMPIRE AGRICULTURAL WORKS.—We have received from Minard Harder, Cobleskill, New York, his illustrated Catalogue of Threshers, Separators, Fanning Mills, Wood Saws, Seed Sowers, Planters, &c., together with his celebrated Gold Medal Railway Horse-power and Thresher and Cleaner.

Ladies Department.

TRIAL TIME.

To many a woman's heart there comes an hour
Of dread necessity. A time of loss
And utter desolation. Greater loss
Than when we sit alone in silent rooms,
Mute with the agony of empty arms,
And the strong tension of mother-heart
Drawn heavenward. For the pall around us then
Is not all motionless, but often sways
To the light wavering of celestial wings;
Till on some blessed day the curtain lifts,
Looped by the cherub's finger. But this hour
Holds not one gracious parting in the cloud;
But in blank heaviness it settles down
Upon the woman soul. No ray of time
Pierces that heavy darkness. Only heaven
Can star its lonely midnight. *This dread wor*
Is when a woman awakens from her dream—
The highest, purest dream of life and time—
And sees the rich web of her fancy drop
Slowly, but surely, from the man she loves,
Leaving, in place of that dear perfectness,
The skeleton of manhood—the grim ghost
Of her ideal. If eternity
Holds not full reparation for her loss;
Then hope and faith are life's inherent lies,
And love is not the synonym of God.

LITTLE DINNERS.

From *Scribner's Magazine* we copy the following sketch on little dinners, which may be of service to many of our lady readers:

The size of the party is a matter of consequence. Some numbers arrange well at table—some ill. Six, ten, fourteen, are favorite numbers. They balance symmetrically, and give a proper alternation of sex. But as a rule, it should be set down that the "little dinner party" shall not comprise more than ten. But giving six or ten well selected, judiciously grouped people, a moderate temperature, sufficient light, and a good dinner, and what farther provocation does mortal man need to make him agreeable—if agreeability within him lies.

The dinner need by no means be elaborate. Soup, fish, a joint or poultry, and a pretty desert, with bright conversation by the way of sauce is sufficient for any small party. And a dozen such in the course of a year do more toward cementing friendliness, and extending our hospitable influence, than any number of "swell" repasts from a confectioner's, or even than a bi-annual jam of the most *recherche* kind, presided over by Brown, or furnished by Jauch.

Every table should have a centre—and that centre should not stand too high; be it fruit, flowers, or confectionery, its top should be below the level of the eye. Nothing interferes with talk so much as to be forced to dodge this way and that to catch a glimpse of one's opposite neighbor. There should not be too much on the table at a time; a crowded look destroys elegance. The eye demands space as well as the elbow. Two vegetables with each course are sufficient.

Hot plates, iced water. Blessed duo! Temperature should be studied by every housekeeper. It is all-important, and within the reach of all. A cold plate makes a good dinner bad, and a bad one horrible. A hot plate (which costs nothing) improves everything. A hot room dulls and stupefies. Conversation wilts with flowers.

To give coloring to the table is a difficult art, now that white china is so generally used. Much may be said in favor of this china. It is neat and pure-looking, it conflicts with nothing, it can always be matched. On the other hand, it defaces easily, and gives a colorless effect which is difficult

to overcome. Our own preference is for the English china, which is cheap, extremely strong, remarkably convenient in shape and size, quaintly and beautifully decorated, and not difficult of replacement if broken. This, however, is a matter of taste. If the dinner service be white it can be enlivened by various little touches. The napkins may boast a scarlet initial or monogram. Folded napkins with letters in the centre may be laid to receive the dishes in lieu of table-mats. Finger-bowls may be arranged to form groups of prettily contrasted tint. Flowers in the centre, or beside the plate of each guest, are prettiest of all. Nothing lends such grace to food as flowers.

A delicate finish should characterize each detail, and a certain amount of ornament. Every dish is susceptible of being made pretty as well as eatable. A bunch of parsley, a circle of sliced lemon, vegetables cut into pretty forms, potato, rice, bread-crumbs, quilled paper, adjuncts neither troublesome nor expensive, may be made to give a look of elegance to simple fare. Above all things, perfect and daily neatness, best ornament of all, and that cordial home atmosphere which confers savor even upon a dry crust.

All this is so much trouble, some one says, and makes no show, and confers no particular credit. But anybody can give a ball or reception, nowadays, with the existing facilities, and be pretty sure of having it as fine and as dull as the Browns in the next street, or the Jones over the way. But to arrange a smaller party, or one out of the common way, and make it live and sparkle, requires personal talent. And the people who come to your ball and perspire in corners, and get *mayonaisse* on their gowns, go away without caring a button for you, while the select few who enjoy your little dinner carry off an impression of pleasantness and taste which raises your house in social importance. And last, though not least, many of us who possess the hospitable instinct, can afford to give the one and can by no means afford to give the other. Wherefore, long live little dinners!

MARRIED MEN.

Married men are of two kinds—good and bad. The bad are truly horrible; the good, very good indeed. The bad married man ill-treats his family in every way, and generally ends by running away and leaving his wife to earn a living by needle-work. But the good married man—well, he is not madly in love any more, but he believes there never was such a woman as his wife. He does not see Time's changes in her face; she is always young to him. Every baby binds them closer to each other.

There is an expression in every good married man's face that a bachelor's cannot have. It is indescribable. He is a little nearer the angels than the prettiest young fellow living. You can see that his broad chest is a pillow for somebody's head, and that little fingers pull his whiskers. When some one has said Husband, and some other Papa, a seal is set upon his forehead. No one—no woman, at least—ever mistakes the good married man for an instant. It is only the erratic one who leaves you in doubt. The good one can protect all the unprotected females, and make himself generally agreeable to the ladies, and yet never leave a doubt on any mind that there is a precious little woman at home worth all the world to him.

TRUE POLITENESS.—Men of fine feelings fascinate through a certain affectionate watchfulness of the little wants of others, through a divining of their most softly whispered wishes, and a continual sacrifice of their own; thorough politeness, whose silken bands twine more gently and closely round our hearts than do the rough cords of one great benefit.

DOMESTIC RECIPES.

PROTECTION AGAINST MOTHS.—A correspondent of the *Cabinet Maker* (an interesting and valuable journal, by the way) gives the following recipe as one which has kept the moths out of a furniture warehouse for ten years past:—"Flour of hops, one drachm; Scotch snuff, two ounces; gum camphor, one ounce; black pepper, one ounce; cedar saw-dust, four ounces. Mix thoroughly and strew, or put in papers among the goods."

TO WASH SILK.—Half a pint of gin, four ounces of soft soap, and two ounces of honey, well shaken. Wet a sponge with this mixture, and rub the silk, which should be spread upon the table. Then wash it through two waters, in which put two or three spoonfuls of ox-gall, which will brighten the colors and prevent their running. Do not wring the silk, but hang it up to dry, and while damp iron it. The lady who furnishes this recipe says she has washed a green silk dress by it, and it looks as good as new.

TO MAKE EMBROIDERY PATTERNS.—The traced patterns for embroidery are printed, when many copies of the same pattern are required. When a few are needed, they are made by hand, as follows: The drawing is made upon paper; then lay the drawing upon an even cloth, and perforate all the lines with a fine needle, close and even. Then take finely powdered charcoal, three parts, resin one part in fine powder; mix and tie it in a piece of porous calico, so that it forms a dusting bag. Lay the perforated drawing upon your material, hold down with one hand, rub the dusting bag over the drawing; the dust will fall through the holes and form the drawing on the material. Remove the paper drawing, lay blotting paper over the dust pattern, and go over it with a warm flat-iron. The heat will melt the resin and fix the drawing.

WASH FOR CLEANSING SILVER AND BRITANNIA WARE.—Take one pound of common hard soap, three table-spoonfuls of spirits of turpentine, and half a tumbler of water. Allow the soap to dissolve; then boil ten minutes, and before it cools add six tablespoonfuls of spirits of hartshorn. Make a suds of this preparation, and wash the silver with it.

TO IRON VELVET RIBBON.—Dampen the under side slightly, and draw it backward and forward over a hot stove-pipe until the velvet is quite dry. A still better plan—though in winter it is not always as convenient—is to lay a wet piece of cotton cloth on a hot flat-iron placed upside-down, and while the steam is rising from it, to draw the under side of the velvet tightly backward and forward over the wet cloth.

TO MAKE LEAVEN.—Stir corn meal in a pint of fresh buttermilk; add an old yeast cake dissolved in water; make it about the consistence of batter bread, and set in a warm place to rise. When well risen, add more meal, make it into cakes, and dry in the shade.

TO REMOVE ACID STAINS AND RESTORE COLOR.—When color on a fabric has been accidentally or otherwise destroyed by acid, ammonia is applied to neutralize the same, after which an application of chloroform will in almost all cases restore the original color. The application of ammonia is common, but that of chloroform is but little known. Chloroform will also remove paint from a garment or elsewhere, when benzoic or bisulphide of carbon fails.

TO CLEAN WALL-PAPER.—A friend who has tried it writes us: Wall-papers are readily cleansed by tying a soft cloth over a broom and sweeping down the walls carefully.

☞ The MARYLAND FARMER is only \$1.50 per annum. Take it one year.

USEFUL RECIPES.

The following we glean from the *American Stock Journal*:

WORMS IN HORSES.—If a harsh hollow cough or belching is accompanied by a hard staring coat, itching and costiveness, it denotes the presence of worms. These parasites are found in all the domestic animals; each, however, possessing its own varieties. I will only mention these species which are commonly found in the horse. The horse is infested by the long, round worm, the appearance of which is not very unlike an ordinary earth worm. This parasite is termed the *ascaris megaloccephala*, and when they are very numerous, greatly weaken the horse; there are also a smaller species of worms termed the *strongylus armatus*. They are more commonly known by the name of the needle worm. They do not exceed three or four inches in length, and taper to a fine point at the head and tail, and lastly, there are ascarides or thread worms, which are no thicker than a thread, and about a couple of inches in length.

Treatment.—Divide six ounces of iron filings so as to form twelve balls, and give one every morning until they are finished, and then give seven or eight drachms of aloes, which will cause the expulsion of any worms which remain in the horse's intestines.

CONSTIPATION IN ANIMALS.—Constipation is that condition of the bowels in which an animal has difficulty in voiding its excrements. In horses it is produced by feeding plentifully with oats, corn, &c; by giving an insufficient amount of water, combined with a deficiency of exercise. The abuse of astringent medicine by producing an irritation of the intestine, is very apt to lead to this condition, so those persons who are in the habit of administering tonic medicines without knowing their composition, much less their effects, should beware of a practice which is very apt to lead to dangerous results. The treatment consists in giving the animal a sufficient amount of exercise, and a bran wash, instead of its usual feed of oats, two or three nights a week. If the constipation is obstinate, a dose of aloes (six drachms) may be given, and injections of blood-warm soap suds must also be used. Cases of constipation, if neglected, are apt to terminate fatally, by the excrement becoming hardened, and thus producing inflammation of the intestines. Constipation is a troublesome, and, indeed, dangerous condition in newly born foals. The meconium, or excrement which accumulates in intra-uterine life, becomes hard and cannot be expelled, giving rise to colic and urgent symptoms. Blood-warm water injections are to be relied on, especially if employed early.

HORSES LOLLING OUT THE TONGUE.—We have cured several horses of lolling out the tongue, by putting red-pepper on it whenever they put it out; carry a paper in your pocket, and whenever the animal puts out the tongue give it a good dusting. Coating the bits with leather will cure some horses.

SCOURS IN CALVES.—For scours in calves, pigs and sheep, take a quantity of good oats, boil them one hour, and give, freely of the tea till a cure is effected. From many trials we are satisfied that the remedy is safe and certain.

TO PREVENT GRUB, &c.—For keeping horses and mules in good condition, and a preventive of grub: Mix equal quantities each of alum, saltpetre and alum salt, thoroughly pulverized. Dose, a table-spoonful every eight days.

FOR FOOT EVIL.—Saturate the affected part with spirits of turpentine, and apply a match. One application makes a complete cure, and does not make much of a sore.

Livestock Register.

More Improved Stock.

CHARLES E. COFFIN, Esq., of Muhlkirk, Md., continues to make additions to his splendid herd of Short-horn cattle. Since our notice of the 31st ultimo, we are advised of the following, which he has purchased recently of Mr. WHITMAN, of Fitchburg :

Rowena 2d by Hotspur, 4030, Dam Rowena by Barrington, 1229.

Blanche by White Cloud 9300, Dam Rowena 2d by Hotspur, 4030.

Rosaline by Rosy Duke, 6142, Dam Rosalind by Mosstrooper, 5025.

Yarico 32d by 2d Earl of Carlisle, 2804, Dam Yarico by Kirkleavington, 610.

Blossom by Lord Mayor of Oxford, 4954, Dam Brunette by Hero of Thorndale, 18,061.

Arabella 2d by Granite State, 2936½, Dan Arabella by Connecticut, 369.

Lady Lincoln by Lucifer, 4975, Dan Ida by Kirkleavington, 610.

These cattle have all arrived safely, and have further increased his stock since their arrival by two fine heifer calves. Mr. COFFIN's herd now comprises some twenty-seven head of thoroughbreds, embracing, as will be seen above, some of the finest strains in this country, all of which he will be pleased to exhibit to his friends and those interested in this subject. Trains on the Baltimore and Washington Railroad, from both these cities stop daily at Mr. COFFIN's place, and his grounds and large Iron Furnace are alone worth a visit.—*Prince Georgian.*

HANDLING HOGS.—A practical breeder gives the following advice, which in the main we think sound, for those whose herd is not too large, and who are engaged in mixed husbandry : "To handle hogs to the best advantage, a pasture is needed of mixed grasses, clover, blue grass and timothy, and it is best if there is no running water or stock ponds in the lot. Hogs do better where there are no branches or stock ponds to wallow in. In place thereof have good well water pumped for them. Have troughs made and nail strips across, eight inches apart, to keep the hogs from lying down in the water, and let these hogs be put on floors, to keep them from digging up wallowing holes. If any feed be given it should be soaked in swill barrels for twelve hours before feeding—no longer—and fed to them as drink."

FOOD FOR FATTENING HOGS.—A farmer wants to know—so he says, in a cotemporary—which is the best food for fattening hogs—corn at 70 cents per bushel, rye at 80 or buckwheat at 80. If he is a farmer to the manor born he ought to know, but as he is probably not, we will tell him that there is nothing like corn in its various forms—whole or ground, and boiled into mush. While most persons prefer the latter, we should prefer the whole corn and water, which might be changed occasionally for the mush. No food fattens hogs faster, or makes sweeter or more solid pork than corn.—*Ed. Germantown Telegraph.*

An Ohio hog grower says that the following treatment will make the biggest hog out of a pig in twelve months. Take two parts of barley, two of corn, and one of oats. Grind them together; then cook and feed cold. He says it is the cheapest food, and that any pig of good improved breed can be made to gain a pound a day until a year old.—*Prairie Farmer.*

DOES CONTINUOUS CROPPING EXHAUST THE SOIL?

It seems to be a favorite proposition, among agricultural writers, that continuous cropping is exhaustive of the soil; that cropping takes from the soil a certain amount of the *bases*, such as lime, potash, magnesia and the various alkalies formed from these bases, &c; that unless these are put back by the way, or in the form of fertilizers, the soil will be exhausted and reduced to poverty.

Now, this is a very specious and plausible argument; and appears as plain as that two and two make four; or, that if two were taken from four, only two would remain. But just let me tell the farmer that he can as quickly and effectually exhaust the soil with the use of fertilizers, as he can without them.

I state here as a fact, that the bases—the mineral constituents assimilated by plants as a part of their food, is in nearly all the arable land of our country inexhaustible.

It has required thousands of years to convert the stones and rocks that cover the earth into cultivated lands; it will require thousands of years more to accomplish their entire destruction or exhaustion; and while this disintegration of rocks is going on, the alkalies are set at liberty and made available for the food of plants. I assert also, by the authority of Baron Liebig, one of the ablest writers upon organic chemistry, that one cubic foot of felspar contains a sufficient quantity of the alkalies to supply an acre of forest trees for many years.

Now, while we have felspar and formations of other rocks spread over the surface of our lands, who need fear the exhaustion of the soil?

I can conceive of but *three ways of exhausting the soil.*

The first is, by stopping the disintegration of rocks, thus preventing the liberation of their alkalies.

Secondly, by incineration; that is, by permitting the soluble constituents of the soil to be burned up.

And third, by the grazing of cattle.

We expect in due time to force nearly all of our farmers to plead guilty to all three of these modes of exhausting the soil by their system of farming.—*Cor. in Ægis and Intelligencer.*

NEW BOOKS.

We acknowledge the receipt of the following Books, published by T. B. Peterson & Bros., Philadelphia, from the *Baltimore News Company*, formerly Henry Taylor & Co:

JACK HINTON, THE GUARDSMAN; TOM BURKE OF OURS; HARRY LORREQUER.

All the above works are by Charles Lever, and are republications of his more popular series of Novels. As a story-teller Lever is unrivalled. He is witty, epigrammatic, and has a remarkable knowledge of the world and the people who live in it. In fighting and horse-racing, steeple chasing and womanly intrigues, Lever excels all other English novelists. All his works are clearly written; there is not a dull line in them, and all are full of incident and characterization.

THE MYSTERY OF EDWIN DROOD. By Charles Dickens.

Although Dickens was taken off by death before completing this remarkable novel, the story is so far developed that any intelligent reader can in imagination unravel the thread of the mystery, and carry out the story to its conclusion.

THE THREE GUARDSMEN. By Alexander Dumas.

Next to "The Count of Monte Cristo," "The Three Guardsmen" has been the most popular of all that multitude of romances which bear the name of Dumas. It is full of romantic adventures and of exciting incidents, and the story is extravagant in some of its phases and the truth of history is often violated, it is nevertheless intensely interesting.

TWENTY YEARS AFTER. Second series of Three Guardsmen. By Alexander Dumas.

This continuation of the "Three Guardsmen," though not as good as the original romance, is likewise well written, quite romantic in its incidents, and full of exciting situations.

VALENTINE VOX, the Ventriloquist. By Henry Cockton.

This is another reprint of a book that has been remarkably popular, and that is and always will be regarded as very cleverly written. The adventures of Valentine Vox are full of fun and of incidents of the most amusing description, and any one who wants to pass a leisure hour pleasantly will be delighted to read them.

MAD MONKTON AND OTHER STORIES. By Wilkie Collins.

SIGHTS AFOOT. By Wilkie Collins.

The name of Wilkie Collins now stands almost at the head of the list of the living English novelists. His plots are intricate, his stories full of mystery, and his power as a writer unquestionable. We have here two of his earlier works. The first is a collection of stories written for the *Magazines*, and all of them excellent in their way. The second is a record of travel, full of observations, and abounding in fine descriptions of scenery and character.

WHAT I KNOW ABOUT FARMING. By Horace Greeley. Published by the New York Tribune Association. For sale by Trumbull & Brothers, Baltimore.

Horace Greeley as a politician has long been a power in the Radical party. But Horace Greeley has a mania for writing on all manner of subjects, on which he has only a superficial knowledge, and concerning which he often makes gross errors. His knowledge of Farming is of this character. Some things he says are true enough, whilst

others are cranky and impracticable. As a work on Farming of real value to those who desire to acquire a more perfect knowledge of agriculture, this book will not satisfy the enquiring mind. As a specimen of Mr. Greeley's talent for book making, it is well enough.

THE PEOPLE'S PRACTICAL POULTRY BOOK. By Wm. M. Lewis. Illustrated with over one hundred Engravings. Published by D. D. T. Moore, New York.

Mr. Lewis has in this work written an exhaustive treatise on the Breeding, Treatment, and Management of Fowls. He writes well, and from several years experience as a breeder of Fowls. He enters minutely into all the particulars that have a bearing on this interesting subject; gives much good advice, describes and illustrates the various breeds of poultry, and enters into full details of the construction of poultry houses and yards, chicken-coops, pens, water troughs, mode of feeding, &c., &c. He has produced a good book, and any person desirous of obtaining information on matters relating to the feeding and management of poultry, may study this book by Mr. Lewis to advantage.

BUTTER MANUAL.—We have received a copy of "A New Butter Manual"—published by P. Blanchard's Sons, Concord, N. H., who are the manufacturers of the celebrated Blanchard Churn which has won so high a reputation throughout the country.

Poisonous Medicines.

The theory that the virus of disease can be safely counteracted by doses of poison, is false and dangerous. Within the last twenty-five years, not less than a score of virulent poisons have been added to the repository of the medical profession. They are given small doses, otherwise they would destroy life immediately; but even in minute quantities, they produce, ultimately, very disastrous effects. It is unwise and unphilosophical to employ, as remedies, powerful and insidious drugs, which, in subjugating one disease, sow the seeds of another still more unmanageable. None of these terrible medicaments operates with as much directness and certainty upon the causes of disease as Hostetter's Stomach Bitters, a tonic and corrective, *without a single deleterious ingredient in its composition*. Arsenic and quinia are given for intermittents; bromide of potassium for nervous disorders; strychnine and prussic acid for general debility; mercury, in various forms, for liver complaint; preparations of chloroform and opium for sleeplessness; and yet these deadly drugs do not compare, as specifics for the diseases above enumerated, with that wholesome vegetable invigorant, and alterative, while they are all so pernicious that it is astonishing any physician should take the responsibility of prescribing them. Let invalids, for their own sakes, try the Bitters before they resort to the poisons. The relief they will experience from a course of the harmless specific, will render a recourse to the unsafe preparations referred to, quite unnecessary.

"**Superior Imperials.**"—Our thanks are due the Messrs. James D. Mason & Co., of Baltimore, for a caddy of their unrivalled "Superior Imperials"—American Crackers, which are the daintiest little things we have ever had in the family. No English crackers can excel them. They are of various patterns, and done up in neat tin caddies, beautifully labelled. The house of James D. Mason & Co., was established in 1820, having been handed down from sire to son, and is the most extensive bakery in this city. They are now supplying the market with superior crackers of every variety, and cakes of all kinds that are really equal to those had of the confectioners. Our country friends, farmers and merchant, would do well in giving their goods an examination and trial.

THE MARYLAND FARMER.

BALTIMORE MARKETS---May 1.

Prepared for the "Maryland Farmer" by **GILLMORE & SON**, Produce Commission Merchants,
194 W. Pratt st.

[Unless when otherwise specified the prices are wholesale.]

ASHES.—Steady. Pot \$6.75@7.25
BEESEWAX.—Moderate enquiry; Southern, 30@31 cts.; Western, 32@33 cts.
BROOM CORN.—Quiet; Red, 4@5 cts.; Green, 6@7 cts.
BUTTER.—No sales for old, except at grease prices, unless a choice lot, which would command 28cts. Fresh is scarce, and meets with ready sale at 25@35 cts., according to quality.
COTTON.—Market active under a speculative demand.

	Upland.	Gulf.
Ordinary.....	10½ cents.	11 cents.
Good ordinary.....	12½	13
Low middling.....	13½	14
Middling.....	14½	15

COFFEE.—Active market, and prices ranging from 15 to 17 cts. for fair to prime.
DRIED FRUITS.—Receipts light, demand light; season pretty well over.
EGGS.—Case eggs active at 17 cts.; and bbls slow sale, at 16 cts. Receipts and consumption about equal.

FERTILIZERS.—No change to note. We quote:

Peruvian Guano.....	\$68	✓	ton of 2000 lbs.
Orchilla and Rodonda.....	30	✓	ton "
Turner's Excelsior.....	60	✓	ton "
Turner's Ammo. S. Phos.....	50	✓	ton "
E. F. Coe's Ammo. S. Phos.....	55	✓	ton "
Ober's Superphospho-Peruvian Guano	65	✓	ton "
Ober's Super-Phosphate of Lime.....	55	✓	ton "
Soluble Pacific Guano.....	60	✓	ton "
Patapco Guano.....	60	✓	ton "
Flour of Bone.....	60	✓	ton "
Andrew Coe's Super-phosphate.....	52	✓	ton "
Baugh's Raw Bone S. Phos.....	50	✓	ton "
Excellenza Cotton Fertilizer.....	56	✓	ton "
Excellenza Soluble Phosphate.....	56	✓	ton "
Excellenza Tobacco Fertilizer.....	60	✓	ton "
Meat and Bone Guano.....	40	✓	ton "
Magnum Bonum Soluble Phos.....	52	✓	ton "
Ruth's "Challenge" Sol. Phos.....	60	✓	ton "
Zell's Raw Bone Phosphate.....	56	✓	ton "
Rhodes' do.....	50	✓	ton "
Mapes' do.....	60	✓	ton "
Bone Dust.....	45	✓	ton "
Horner's Bone Dust.....	45	✓	ton "
Dissolved Bones.....	60	✓	ton "
Baynes' Fertilizer.....	40	✓	ton "
"A A" Mexican Guano.....	30	✓	ton "
"A" do.....	30	✓	ton "
Moro Phillips' Super-Phosphate.....	56	✓	ton "
Whann's Raw Bone Super Phos.....	56	✓	ton "
Md. Fertilizing & Manufacturing Co's Ammoniated Super-Phosphate	55	✓	ton "
Fine Ground Bone Phosphates	30	✓	ton "
Plaster.....	\$2.25	✓	bbl.

FLOUR.—Firm market.

City Mills Super.....	6.00	@	6.25
Extra.....	1.00	@	8.00
Family.....			\$11.00
Howard Street Super.....	5.75	@	6.25
Extra.....	6.50	@	6.75
Family.....	7.50	@	8.50
Western Super.....	5.75	@	6.75
Extra.....	6.50	@	6.75
Family.....	7.25	@	8.50

GRAIN.—Wheat, quiet; prices steady at \$1.45 to \$1.75 for red. Corn, dull and lower. White, 73 cts., yellow, 76 cts. Oats, steady at 68@68 cts.
MILL FEED.—Brownstuff 23@25 cts.; Light Middlings 30@32 cts. and heavy 45@50 cts.
MOLASSES.—Market firm; New Orleans, 65 to 70 cts.; Porto Rico, 35 to 50 cts.; Demerara, 35@40 cts.
PROVISIONS.—Dull and lower; Hams, 16@17 cts.; Sides 10@11 cts.; Shoulders, 8@9 cts.
POTATOES.—Ready sales at \$1.30 to \$1.35 for Peach Blows.
POULTRY.—Active. Old fowl, \$5.00 to \$7.00 per doz.; and chickens at \$4.00 to \$5.50 per doz.
RICE.—Dull. Carolina at 7½ to 8½ cts.

SALT.—Ground Alum, \$1.50 to \$1.60, and fine at \$2.20 to \$2.30 per sack; Turk's Island, 50 cts per bushel.
SUGAR.—Fine grocery grades, N. C., 9½@10 cts; Port o Rico, 9½@10½ cts.; Demerara, 10½@12 cts.
WHISKEY.—92 to 93 cts.

If you don't want to disgust everybody with your offensive breath, cure your Catarrh upon which it depends. \$500 reward is offered by the proprietor of Dr. Sage's Catarrh Remedy for a case of Catarrh which he cannot cure. It is sold by druggists. Can get it for Sixty Cents by mail from Dr. R. V. Pierce, Buffalo, N. Y.
Dr. Pierce's Golden Medical Discovery is the great Cough Remedy and Blood Purifier of the age. Sold by Druggists.

WANTED.

A young man who served as an apprentice in the office of the MARYLAND FARMER, desires a situation as *Compositor* in a *Country Office*. Has some knowledge of JOB WORK.
Address
GEO. HOWARD ROSS,
345 E. Monument St., Baltimore, Md.

To Farmers and Planters.

REDUCTION IN PRICE

—OF—

"EXCELSIOR"

AND

Ammoniated Super-Phosphate.

The decline in Gold, and consequent reduction in cost of materials of which our fertilizers are composed, we are enabled to reduce the price of EXCELSIOR to \$60 and our AMMONIATED SUPER-PHOSPHATE to \$50 PER TON, and refer farmers and planters to our advertisements in this paper.

J. J. TURNER & CO.

Manufacturers,

42 W. PRATT ST., Baltimore, Md.

BALTIMORE, February 15, 1871.

1t

We have a limited supply of

St. LOUIS BONE FLOUR,

The particles of which are about the size of Timothy seed. We recommend this as something very superior. We will send a sample, by mail, to any one desirous of seeing it, and think an examination will convince any one of its superiority over anything in the market.
Price \$48 per ton of 2000 pounds.

E. WHITMAN & SONS,

mar-tf

No. 145 W. Pratt st., Baltimore, Md.

GUANO,
BONE,
POUDRETTE,
PLASTER.

TAKE NOTICE! The mixing of No. 1 Peruvian Guano with worthless Guano, or earth of the same appearance, and selling the same for pure is being done extensively by **Unscrupulous Dealers**. Those who manipulate are so expert in the business, that it is almost impossible to detect the fraud. Bags are properly branded and made to correspond with the original. Country merchants can make a larger profit by selling the mixed article. We guarantee that we sell to be Pure No. 1 Peruvian Guano. Farmers and dealers supplied at the lowest market price.

BONE! Every farmer, gardener and fruit grower who has had experience, knows full well the value of Ground Bone as a manure; it is the cheapest and best fertilizer for the farmer. All soil must have phosphate of lime to make it fertile; vegetation feeds upon it. Pure Ground Bone will supply it. The BONE we sell is collected from our New York markets daily and ground, and is, we believe the best in the market. Farmers and dealers supplied at lowest market price.

POUDRETTE! Common and Double Refined Poudrette. The best in the market.

LAND PLASTER! This article, on some soils, acts like a charm.

The above Fertilizers, together with a large assortment of Agricultural and Horticultural Implements furnished at Wholesale and Retail.

BONE MEAL prepared for horses, cows, swine, poultry, &c. Send for circular.

GRIFFING & CO.,

METROPOLITAN AGRICULTURAL WAREHOUSE,

11th & 60 Courtland Street, New York.

WILKINSON'S Patent Horse Stall

Patented April 25th, 1871,

By J. WILKINSON,

Rural Architect, of Baltimore, Md.

OFFICE,

COR. CHARLES & BALTIMORE STS.

Horse owners are respectfully informed that I am now offering Stable Rights, also Territorial Rights, to the use of my Patent Horse Stable, on terms so low as to secure their general and speedy introduction.

As my Stall enables horse owners to dispense with all bedding, and effects a large saving of both hay and grain, livery men and others have decided that they cannot afford to do without it. John Meeth, Esq., has just erected a fine Hack and Livery Stable, corner of Republican and Saratoga Sts., Baltimore, all the Stalls of which, 30 in number, are supplied with my Patent System of Drainage, which Mr. Meeth says, not only gives him the most cleanly and comfortable Stable that he has ever seen, but that the saving arising from the improved drainage, will pay the cost of the Patent in a few months; and that he is satisfied that the floors of the Stalls will last more than twice as long as the same materials would, if constructed on the old system.

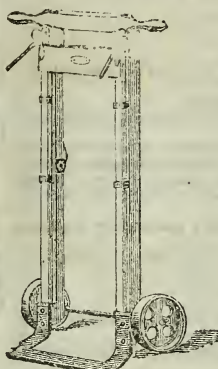
Were it necessary, I might name numerous other gentlemen, in various parts of the country, who are using my Patent Horse Stall with the fullest satisfaction.

J. WILKINSON,

ARCHITECT, Baltimore, Md.

may-1f.

HOSTETTER'S BAG HOLDER AND TRUCK.



Farmers, Miller, and all other persons who fill and handle bags or sacks, are invited to give their attention to the merits of this invention which combines the great convenience and utility of a complete bag holder, with the usefulness of a truck moving the bags from place to place, thus effecting a great saving of labor in filling and handling, and in the wear of the bags; at same time the truck is convenient to use for moving other heavy articles.

By reference to the cut the construction and operation will readily be understood. A quite simple and very effective bag holder is fixed on a neat sliding frame which is securely attached to the truck in such a manner that it can

be instantly adjusted at any required height, and will hold on there until moved. The truck when placed in position, the bow, or front plate, resting on the floor, stands firm and steady, perfectly upright. The mouth of the bag is stretched quite open over the rods, and firmly held by button clamps; the peculiar shape of the rods holding the front side of the bag lowest, making it easy to fill into. The bottom of the bag is made to rest on the bow (or curved plate in front) of the truck, by adjusting the sliding frame. The bag being firmly held by the holder to the truck it can be trucked to another place while open, or it may be closed on the truck.

The frame and top-piece of the truck being flush in front, the sliding frame can be put up high enough to hold a very long bag, while the handles are always conveniently low. The Truck stands on a space 14 inches square, is 42 inches high, and weighs about 24 pounds. For sale by E. Whitman & Sons, 145 Pratt Street, Baltimore, Md.

T. H. KEMP.

J. W. KERR.

CHOPTANK NURSERIES,

Denton, Caroline County, Md.

APPLE TREES—5 to 7½ feet, \$15 per 100, \$125 per 1000, most of the leading varieties of Southern winter apples are embraced in our collections. **VIRGINIA CIDER CRAB**—3 to 5 feet, \$25 per 100, \$200 per 1000.

PEAR TREES—Dwarf and Standard—Cherry, Plum, Apricot, Quince and Nectarines. The varieties of each class comprises what impartial trial has proven to be of actual merit and reliability.

PEACH TREES—(Our Specialty,) a full assortment of the best market varieties.

SHADE AND EVERGREEN TREES—Flowering Shrubs, &c. Grape Vines 1, 2 and 3 years old; strong and well rooted, in large or small quantities, at low prices. Blackberries, Raspberries, Gooseberries, Currants and Strawberries, everything in this line that fair trial has proved worthy. Asparagus and Rhubarb, also Usage Orange Plants by the 1000 or 10,000.

Our Price List for Fall Trade will be ready by middle of June next, and mailed free to all applicants.

KEMP & KERR,

Denton, Caroline Co., Md.

mar-1y*

PURE BREED

CHESTER WHITE PIGS AND POULTRY

Bred by J. W. & M. IRWIN, Penningtonville, Chester Co., Pa. Eggs a specialty. Send stamp for circular. 11*

TIN-LINED LEAD PIPE.

TIN-LINED LEAD PIPE is a Block-Tin Pipe heavily coated with solid lead. The metals are so thoroughly united in the process of manufacture as to be, in fact but one pipe. Tin is a metal closely resembling silver, both in color and purity; hence water flows through tin-lined lead pipe as pure as if drawn through silver. It is as flexible and as easily worked as lead pipe; it is also stronger and more durable. By its use lead and zinc poison and iron rust are all avoided, and general health

promoted. Price fifteen cents a pound for all sizes. Circulars and sample of pipe sent by mail free. Address,

COLWELLS, SHAW & WILLARD M'FG. CO.,
No. 213 Centre St., New York.

Also, manufacturer of Block Tin Pipe, Sheet Lead, Lead Pipe, Solder, &c. Orders solicited. 1t*



BERKSHIRES!

BERKSHIRES!!



I have for sale several very fine Thoroughbred Berkshire Pigs, bred from first premium stock, I can also fill orders for superior "Chester White Pigs." I will warrant all the stock I send out to be Thorough-bred, and as represented. For full particulars, price, &c., &c. Address,

WALTER D. SMITH,
Richland, Keokuk County, Iowa.

1t*

Glass Cutter.

The EXCELSIOR GLASS CUTTER, cuts Glass equal to a Diamond. Price, single one, sent by mail on receipt of price, \$1.50, or per dozen, sent by express, \$12.

E D. & W. A. FRENCH,
may-3t Third and Vine Sts., Camden, N. J.

FOR SALE.



I offer for sale THREE ALBANY HEIFERS, 2½ to 3 years old, at \$1.50 each. TWO HEIFER CALVES, and ONE BULL CALF, at \$50 each.

Address

SAMUEL SUTTON,
St. Dennis, Baltimore Co., Md.

1t*



NEVER "STICKS" in any soil. For circulars, giving full information, address **COLLINS & CO.,** 212 Water Street, New York.

may-2t

EMPLOYMENT for ALL.

\$30 SALARY PER WEEK, and expenses, paid Agents, to sell our new and useful discoveries. Address **B. SWEET & CO.,** Marshall, Mich. 1t*

NEW AND RARE PLANTS.

The subscriber offers for sale on the most liberal terms many new

HARDY EVERGREENS,

of unsurpassed beauty. Also, a large collection of HOT and GREENHOUSE PLANTS, selected while in Europe, and still quite rare here. Also, everything worthy of notice, with Cut Flowers, Bouquets and Plants for Decorations furnished on the lowest terms.

JOHN FEAST, Florist,

295 Lexington Street,
BALTIMORE, MD.

P. S.—Having assumed the business of **JOHN FEAST & SONS**, it will hereafter be carried on in my own name. All orders will be punctually attended to for cash, or satisfactory reference.

jan-tf

JOHN FEAST.

AGENTS WANTED FOR

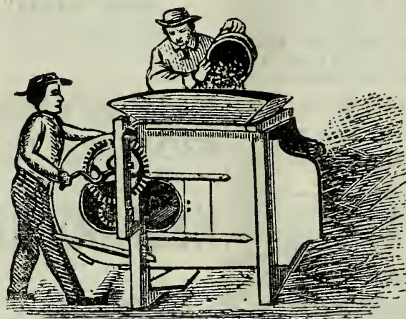
THE YEAR OF BATTLES.

A History of the Franco-German War. By Brockett. Accurate, reliable, and complete. The only one published. Send \$1.50 for outfit, and secure the best territory at once. Address **J. W. GOODSPEED & CO.,** New York or Chicago. ap-3t*

GREAT AUCTION SALE of Choice Ayrshire Cattle. Being under the necessity of reducing my stock, I will sell at auction on Wednesday, the 19th day of April, at 2 o'clock P. M., from 30 to 40 head of Pure bred Ayrshire Cattle, Cows, Heifers and Bulls, a majority of which were bred with great care under my own eye. The sale will take place at my farm in the City of Springfield, Mass., about one mile north of the Railroad Depot. Catalogues sent on application. **I. R. PAGE, Auctioneer.** **WM. BIRNIE, Springfield, Mass.** 1t

WHALE CHASE—A splendid boys' story full of stirring adventure and interesting details of life aboard a whaler, just commenced in No. 39 of **HANEY'S JOURNAL.** On trial to any new subscriber three months for only TEN cents. "Specimens" of newsdealers only. **JESSE HANEY & CO.,** 119 Nassau-st., N. Y.

MONTGOMERY'S ROCKAWAY WHEAT FANS.



Have been proven by a great many trials, in which they have beaten every Fan of any pretensions sold in the Southern States, to be undoubtedly the best Wheat Fan ever invented.

The Committees of one hundred and forty-five Fairs have decided that it was the best, and have given it the premium.

In the fall of 1870 it competed with all the Fans made in Maryland, Virginia and the adjoining States, and in every case came out victorious, persons being surprised to see with what ease it defeated Fans claiming great improvements.

It is the only Fan that will take garlic out of wheat.

It is the only Fan that will take oats out of wheat with any degree of certainty.

It will separate corn, gravel, rat filth, &c., from wheat.

It will take out more cockle than any other Fan.

It is the cheapest Fan in the market when you take into consideration the substantial manner in which it is made, and the number of sieves and screens to each Fan, and other valuable arrangements for separating oats, garlic, cheat, gravel, &c., from the wheat.

Each Fan is made under the superintendence of the inventor, who has for the past thirty years devoted his entire attention to the manufacture of Fans.

PRICE—No. 1.....\$44 00
No. 2.....42 00

Manufactured and for sale by

E. WHITMAN & SONS,

Nos. 145 and 147 West Pratt Street, Baltimore, Md.

Excelsior Wheat Fans.

These are as good as any Fan in the market excepting the Montgomery.

PRICE \$30.

Manufactured and for sale by

E. WHITMAN & SONS,

Nos. 145 and 147 West Pratt Street,

BALTIMORE, MD.

The Persicator

OR

CONCENTRATED ASHES.

The great need of agriculture is POT-ASH, the use of Phosphates and Guano have only made this need more urgent. It is especially adapted for the

Peach Culture,

from which it takes its name. It is cheap, reliable and has proved successful. Is prepared under direction of that eminent practical agricultural chemist, Dr. David Stewart, and is excellent for Corn, Tobacco and Grain crops generally.

Pamphlets with evidence of its value, as proved last season, will be furnished on application.

Manufactured by HIGGINS, REYBOLD & CO., Delaware City, and for sale at \$43 per 2000 lbs., in Barrels, by their agents,

CHAS. L. OUDESLOYS,
NO. 57 S. GAY STREET,

ap-3t

Baltimore, Md.

FLOUR of BONE.

GROUND BONE.

Fertilizer,

Fish Guano,

Ammoniated Phosphate,

Refined Poudrette

and Compost,

Warranted pure, and for sale by the BALTIMORE CITY FERTILIZING MANUFACTURING COMPANY, Office No. 4 WOOD STREET, Corn Exchange Building, where directions for use and testimonials of farmers can be had.

JNO. A. THOMPSON,

ap-2t

TREASURER.

POUDRETTE—\$25 per Ton.

Consisting of— 667 lbs. Bone,
1333 " Nitrogenous matter,
in 2000 lbs.

"FERTILIZER"—\$40 per Ton.

Consisting of—667 lbs. Bone,
666 " Meal,
667 " Poudrette,
in 2000 lbs.

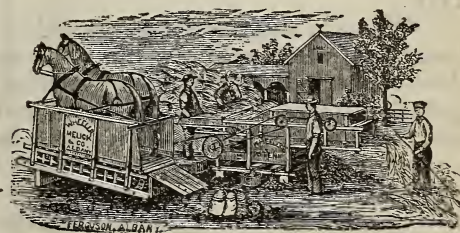
These fertilizing compounds are made by the Baltimore City Fertilizing Company. A bonus of eighteen thousand dollars per annum is paid to the Company by the corporation of Baltimore city for receiving the dead animals, excrements, &c. Ten tons of excrement yield about one ton of the nitrogenous matter used in the manufacture of POU-DRETTE. From the high character for integrity of the officers of this Company—from the well known character of the ingredients warranted by them to be used in these compounds, and from my own personal experience as a farmer in comparing them with other fertilizers upon crops of grain, tobacco, fruits and vegetables, I feel fully warranted in recommending these compounds to agriculturists, believing that there is no fertilizer manufactured which in comparison of cost with results will pay the farmer as well as the articles I hereby offer for sale.

N. E. BERRY,

Agent for the Company,

ap-3t

No. 10 Bowly's Wharf, Balto.



New York State Agricultural Works,

WHEELER, MELICK & CO.,

PROPRIETORS, PATENTEES AND MANUFACTURERS OF

RAILWAY CHAIN AND LEVER

HORSE POWERS,

Combined Threshers and Winnowers, Overshot-Threshers, Clover-Hullers, Feed-Cutters, Saw-Mills, Horse-rakes, Horse-Pitchforks, Shingle-Machines, &c. Albany, N. Y.

ap-3t

VINEGAR, how made in 10 hours without drugs.
Particulars 10 cents. F. SAGE, Cromwell, Conn.

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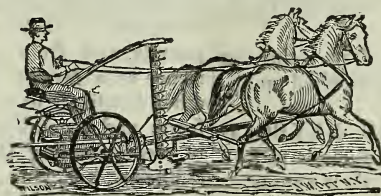
EXCELSIOR

REAPING AND MOWING

MACHINE,

WITH EITHER

SELF RAKE or DROPPER.



Having been selling the Excelsior for the past four years, we are so thoroughly convinced of its excellence, having found it to give more universal satisfaction than any machine which we have ever sold, which includes nearly all the leading machines in the market, that we have no hesitation in recommending it as the VERY BEST COMBINED MACHINE IN THE COUNTRY.

We have shipped a large number of them South, into Georgia and the Carolinas, where they went into the hands of persons entirely unused to this class of machinery, and HAVE NEVER YET HAD AN INSTANCE where they failed to get them together properly and work them to their entire satisfaction. This can perhaps be appreciated, not only by dealers who have sent machines out and after considerable vexation had them returned at a considerable loss, but also by farmers who have at some time bought a complicated machine, and after great trouble in getting it together had perhaps some of the many pieces of machinery break just at the time when the machine was most needed.

There are two sizes of these machines, and we invite those in want of a good Reaper and Mower to call and examine "The Excelsior" before purchasing elsewhere.

E. WHITMAN & SONS,
145 and 147 West Pratt Street,
BALTIMORE, MD.

SEND FOR A CIRCULAR,

apr-tf

PURE GROUND BONES.

The richest preparation of this article offered, containing 8 per cent. of Ammonia, and 40 per cent. of Bone Phosphate of Lime. The purity of this Bone can be seen by the small amount of insoluble matter—less than one-third of one per cent. **FOR SALE IN BAGS**, in lots to suit. Also,

THE CELEBRATED Ammoniacal Matter,

Containing some 13 per cent. of Ammonia, in the form of Nitrogen—superior to Peruvian Guano—and so pronounced by Professors Genth, Liebig, Piggott, Tonry, Wilson and Dr. Pendleton, of Sparta, Ga.

ALSO,

Pendleton's Guano Compound

AND

SOLUBLE SEA ISLAND GUANO,

IN STORE AND FOR SALE.

Dr. T. B. WEST, of Columbia County, Ga., says: Of the seventeen different fertilizers used, Pendleton's Compound is largely ahead in value. Of the eighty-four planters in Hancock using this Guano, all are pleased and endorse it.

SOLUBLE SEA ISLAND GUANO.—CHAS. R. MARTIN, of Chesterfield County, Va., says: Used on Corn, Tobacco and Onions. It is superior to any fertilizer used by me for the last ten years.

Extract from the Petersburg Courier of Feb. 1, 1871.

SOLUBLE SEA ISLAND GUANO.—We desire in a short time to give a full account of this valuable article, as it is recommended to us by some of the best farmers in our section as being the “best Guano now used for the production of Tobacco and Vegetables.”

R. W. L. RASIN & CO.

32 SOUTH STREET,

Baltimore, Md.

THE MARYLAND FARMER.

R. SINCLAIR & CO.

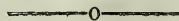
MANUFACTURERS OF

AGRICULTURAL IMPLEMENTS AND MACHINERY,

GROWERS AND IMPORTERS OF

GARDEN AND FIELD SEEDS, TREES, PLANTS, &C.

62 LIGHT STREET, BALTIMORE, MD.



Offer to the farmers of Maryland and the Southern States the following valuable Labor-Saving Implements and Machinery, the most of which are of their own manufacture, and are guaranteed to give entire satisfaction to the farmer and planter :

"ADVANCE MOWER" or **"IMPROVED MONITOR"**—the simplest, strongest and most efficient Mower in the country.

"NEW YORKER" Self-Rake Reaper and Mower, and REAPER only.

"CHAMPION" Reaper and Mower, with either Self-Rake or Dropper Attachment.

Maryland Sulky Self-Discharging HAY AND GRAIN RAKE—the best in use.

"PHILADELPHIA" HAND AND HORSE LAWN MOWERS. Warranted the best in use.

Rogers' Patent Harpoon Horse Hay Fork.

"BUCKEYE" SULKY CULTIVATOR, for working Corn, Tobacco and Cotton crops.

SINCLAIR'S Southern Iron-Brace Grain Cradles.

"Scully's" Patent CIDER AND WINE MILL AND PRESS COMBINED, unequalled for efficiency.

THRASHERS AND SEPARATORS. "Geiser's," "Westinghouse's" "Wheeler's," and other first-class Cleaners.

HORSE POWERS—"Pelton's" Triple Gear, some 5 sizes. Spur Gear Powers, and other good varieties.

"Sinclair's" Patent Screw Propellers and Masticators, for cutting Corn Stalks, Hay and Straw for cattle feeding. These are the premium Cutters of this country.

CORN SHELLERS—All kinds and sizes, both for hand and horse power.

SINCLAIR'S PATENT CORN PLANTER. which plants the Corn any distance required, covers and rolls the land—the most perfect Planter of the day.

GARDEN DRILLS—"Comstock's," "Wethersfield," Planet and other Seed Drills.

WHEAT AND GRAIN DRILLS—"Bickford & Huffman's," "Wagoner's," "Buckeye," and all the best kinds made.

Lime Spreaders, Plaster Sowers, Hay Tedders, Grist Mills, Corn and Cob Crushers, Hay Presses, Iron Field Rollers.

Agents for "Thomas'" Smoothing Harrow, for cultivating Corn and Wheat lands.

Wheat Fans, Pumps, Improved Churns, Horse Shovels, Plows, Harrows, Cultivators, all kinds and sizes. Plow and Machine Castings, Agricultural and Horticultural Hardware.

Address,

R. SINCLAIR & CO.

No. 62 Light Street, Baltimore, Md.

Pennsylvania Agricultural Works, YORK, PENNSYLVANIA.

A. B. FARQUHAR, Manager and Proprietor.

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
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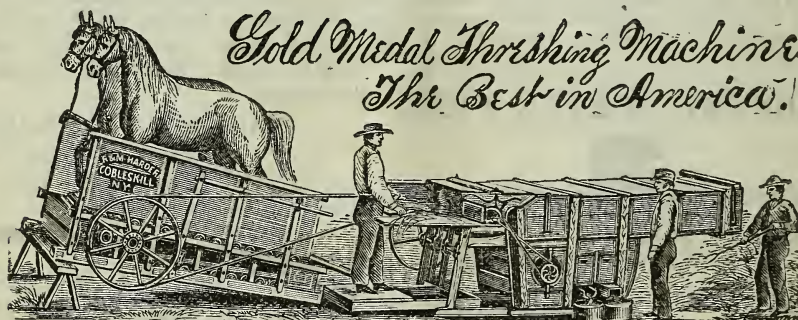
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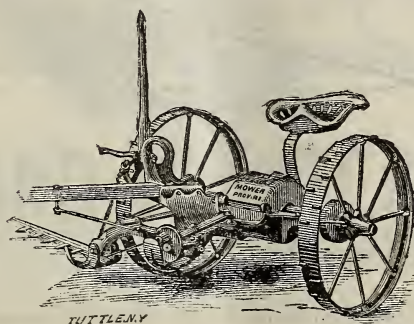
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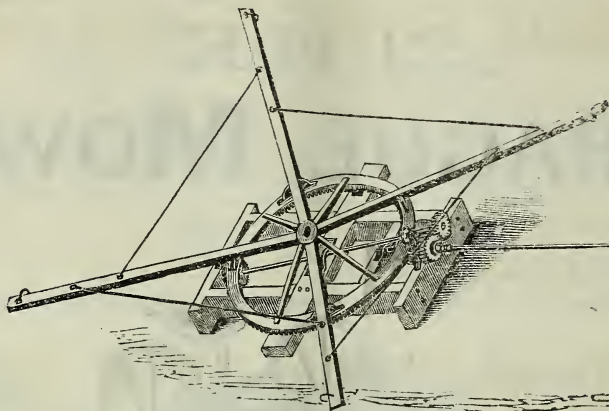
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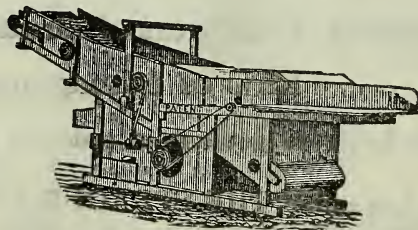
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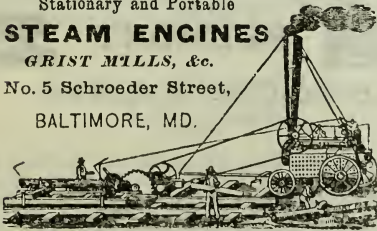
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He would invite special attention to his plans of Farm Buildings, for which he received the highest prize ever awarded in this country; also, to his original modes of constructing underdrains and sewers, and of irrigation. He will furnish plans for heating buildings of any form or dimensions, and will ventilate any cellar, vault or apartment, modifying the ventilation to all circumstances, conditions and purposes, in all of which he guarantees satisfaction. References given if desired. Address

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